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MEMORANDUM

TO: Docket Control

FROM: Ernest G. Johnson
Director
Utilities Division

DATE: April 2, 2009

RE: BENCHMARKED HISTORICAL PERFORMANCE RESULTS AND EXPENSES FOR ARIZONA PUBLIC SERVICE COMPANY (DOCKET NO. E-01345A-08-0172)

Attached is the Staff Report on Benchmarked Historical Performance Results and Expenses for Arizona Public Service Company. Interested parties may comments in the docket. If you have questions please contact Ernest Johnson at (602) 542-0745 or Terri Ford at (602) 542-0858.

EGJ:

Originator: Russell A. Hissom, Consultant, Virchow, Krause & Company, LLP

Attachment: Original and 13 copies

Arizona Corporation Commission
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ARIZONA CORPORATION COMMISSION

Benchmarked Historical Performance Results and Expenses for Arizona Public Service Company

Docket No. E-01345A-08-0172

REPORT DATE: APRIL 1, 2009

VIRCHOW, KRAUSE & COMPANY, LLP

TABLE OF CONTENTS

Executive Summary 1

Section 1 - Introduction 11

Section 2 - Limiting Conditions and Assumptions 12

Section 3 - Sources of Information 13

Section 4 - Peer Selection 14

- Peer Selection Methodology 14
- Peer Selection Results 15

Section 5 - Benchmarking Analysis 17

- Management Expenses 17
- Dividends 22
- Operations and Maintenance Expense 25
- Equity to Debt Ratios 42
- Customer Growth 44
- Funds from Operation to Debt Ratios 46
- Authorized Rate of Return 49
- Revenue Earned on Rate Base 51
- Capital Investment Costs 52

Section 6 - Conclusions 54

Appendix – Resource Portfolio 62

EXECUTIVE SUMMARY

BACKGROUND

Virchow Krause was engaged by the Arizona Corporation Commission Staff ("Staff") as an expert witness in proceedings regarding Arizona Public Service Company's ("APS") performance, results and expenses over the past five years benchmarked against a list of five similarly situated companies. APS is an Arizona utility providing electricity to more than 1 million customers in 11 of Arizona's 15 counties. With its headquarters in Phoenix, APS is the largest wholly owned subsidiary of the publicly traded Pinnacle West Capital Corporation ("PWCC").

The following areas make up the primary performance indicators reviewed under this engagement:

- Management Expense & Dividends
- Operations and Maintenance Expenses
- Equity/Debt ratios
- Customer Growth
- FFO/Debt ratio
- Authorized Rate of Return
- Revenue Earned on Rate Base
- Capital Investment Costs

REPORT PURPOSE

How to Use This Report – What It Is And What It Is Not.

This report is intended to serve as a preliminary diagnostic review to generate questions around potential weaknesses and identify areas requiring additional focused analyses. Just as a physician conducts an initial assessment by taking a pulse and sample history, this benchmark study was designed to be a quick high-level overview of APS' historical performance in key various functional areas. This report is not designed to provide a definitive diagnosis and conclusions. Rather, it is designed as a preliminary diagnostic review to highlight questions to further investigate. Just as a physician follows the initial assessment with a more thorough review, Virchow Krause views that the Staff will benefit from a further investigation of such questions. This could be accomplished by APS providing more information and answers to the Staff's inquiries or a detailed study conducted by an independent third party.

CAVEAT

Virchow Krause cautions readers of this report about the issue of sample size in attempting to draw conclusions from data analysis. Our analysis was limited to a sample of five companies over the five-year period. In certain cases especially when the variability is high, the sample size is too small to provide convincing evidence for certain types of conclusions. On the other hand, we view that the sample size can still provide strong enough signals to serve the purpose of a preliminary assessment.

EXECUTIVE SUMMARY

PEER SELECTION

Virchow Krause was instructed to select peers that were investor-owned electric utilities comparable with respect to customers and revenues. Virchow Krause developed a peer selection methodology to address the comparability of customers and revenues and other operating and financial characteristics. This methodology was developed to eliminate bias in the selection process. The peer selection methodology is described in detail in Section Four of this report.

The peer group of integrated investor-owned electric utilities for benchmarking comparison is comprised as follows:

- Great Plains Energy, Inc. / Kansas City Power & Light
- The Dayton Power and Light Company
- NV Energy
- Entergy-Arkansas, Inc.
- Columbus Southern Power Company

Virchow Krause has relied on publicly available financial and operational data published by the peer entities or from reliable industry research organizations. Even with the comparability of customers and revenues data, the peers are not identical with APS. In order to address some of these data idiosyncrasies, Virchow Krause normalized data for a common-size comparison and provided additional comparisons with a subset of the peer group when deemed necessary.

CONCLUSIONS

The following metrics show statistically significant differences between APS and the peer group for most years, including:

- Customer and Sales Expenses per Customer: APS' customer and sales expenses were significantly higher than the peer group.
- Average Annual Customer Growth: APS' customer growth was significantly higher than the peer group.

Cautions about Significant Testing

Virchow Krause cautions readers of this report about the interpretation of significant tests noted here. In normal English, "significant" means important, while in Statistics "significant" means probably true (reliable / not due to chance). A smaller sample size will provide a larger margin of error and may provide too wide an interval to be of any practical use. In very large samples, even very small differences between variables could be detected as significant, whereas in very small samples even very large differences may not be considered significant (or reliable). The small sample size used for this analysis makes it difficult for us to make statistical inferences. Had we had a bigger sample size (more utilities and/or more years), our results would likely have been different.

In the following section, we will describe APS' performance in relation to peers as follows:

- "Substantially higher/lower": To describe a difference more than 25% from the peer average.
- "Slightly higher/lower": To describe a difference less than 25% from the peer average.
- "Comparable": To describe a difference less than 5% from the peer average.
- "Significant": To describe a statistically significant difference.

EXECUTIVE SUMMARY

Significance testing was performed for each year to determine if APS' performance was different from the peer group for that year. For our overall conclusions, we highlighted the areas where APS' performance was significantly different from the peer group for most of the five years that we reviewed.

1. Management Expenses

a) Management Expenses

Overall, APS' Management Expenses were not significantly different from the peer group for most years. In 2006 and 2007, however, APS' management expenses were substantially and significantly higher than the peer group.

APS' five-year average Management Expenses to sales ratio of 0.33% was substantially higher than the peer average of 0.26%, and second only to DPL, Inc. In 2006 and 2007, APS' management expense ratios were significantly and substantially higher than the peer group.

The trend analysis indicates that APS' management expense to sales ratio increased substantially in 2006 compared to its peer group.

b) Management Expenses (Less Change in Pension Value and Deferred Charges)

Management Expenses reported on the proxy statements include a non-current expense item, the Change in Pension Value and Nonqualified Deferred Compensation Earnings. Since this item is not expensed during the current period, we performed an analysis excluding this item.

On an adjusted basis, APS' five-year average Management Expenses (adjusted to exclude Change in Pension Value and Nonqualified Deferred Compensation Earnings) to sales ratio of 0.25% was comparable to the peer group. Overall, APS' management expenses (adjusted to exclude change in pension value and deferred charges) were not significantly different from the peer group for all years except 2006. In 2006, APS' management expenses were substantially and significantly higher than the peer group.

c) Other considerations

APS stated that a certain portion of its executive compensation is billed to the third party entities through a Participating Agreement. Other companies in our peer group may also have similar arrangements. We did not take this into consideration for our analysis since there is no publicly available data for the entire peer group. Had this allocation been included in our calculation, APS' management expense ratio would have been lower than those presented above.

EXECUTIVE SUMMARY

2. Dividends

Overall, APS' Dividend Payout Ratio was not significantly different from the peer group for all years except 2005. In 2005, APS' Dividend Payout Ratio was substantially and significantly higher than the peer group.

APS' five-year average Dividend Payout Ratio of 80.35 was substantially higher than the peer average of 61.5, and second only to Kansas City Power and Light; the differences were not statistically significant for most years. It is noted that NV Energy's Dividend Payout Ratio was significantly lower than the peer average. Alternatively, if excluding NV Energy for better comparability, APS' five-year average Dividend Payout Ratio was slightly higher than the adjusted peer group average (75.23); the difference, however, is not statistically significant for most years.

The trend analysis shows that APS' Dividend Payout Ratio decreased over five years while the peer group's ratio slightly increased.

3. Operations and Maintenance Expenses

a) Total Operations and Maintenance Expenses

Overall, APS' Total O&M Expenses, on a per customer basis, were not significantly different from the peer group for most years.

On a per customer basis, APS' five-year average Total Operations and Maintenance ("O&M") Costs of $607.45 per customer were slightly higher than the peer average of $555.92; the differences were not significant for any of the years. Alternatively, APS' costs were slightly lower compared to the average costs of sub peer group with nuclear generation ($668.91). The differences, however, were not statistically significant for any of the years except 2003.

The trend analysis shows that APS' costs increased at a rate comparable with the peer average, on a per customer basis.

Overall, APS' Total O&M Expenses, on a per MWh basis, were not significantly different from the peer group for most years.

On a per MWh production basis, APS' five-year average Total O&M Costs of $25.21/MWh were slightly higher than the peer group average of $21.69. The differences were not significant for all years except 2005. It appears that the 2005 peer data was skewed by NV Energy which experienced a substantial change in resource portfolio during that period. Alternatively, APS' costs were substantially higher compared to the average costs of sub-peer group with nuclear generation ($18.17). Neither difference, however, was statistically significant for the most part.

The trend analysis shows that APS' Total O&M costs were relatively flat over the past five years on a per MWh production basis.

b) Power Production O&M Expenses

Overall, APS' Power Production O&M Expenses, on a per customer basis, were not significantly different from the peer group.

On a per customer basis, APS' five-year average Power Production O&M Expenses of $266.75 per customer were substantially higher than the peer average of $212.23; the differences, however, were not statistically significant for any of the years. Alternatively, APS' costs were comparable to the average costs of sub-peer group with nuclear generation ($274.71).

Overall, APS' Power Production O&M Expenses per MWh were not significantly different from the peer group on an adjusted basis for better comparability.

On a per MWh produced basis, APS' Power Production O&M Expenses of $11.04/MWh were substantially higher than the peer average of $8.08/MWh. The differences were statistically significant for 2005 and 2006. Again, it appears that the 2005 and 2006 peer data were skewed by NV Energy who experienced a substantial change in resource portfolio during that period. In addition, the result is somewhat expected as the peer group included utilities without nuclear generation. A comparison with the adjusted peer group is warranted since nuclear generation involves higher production O&M costs than other fuel sources. Alternatively, compared with the sub-peer group with nuclear generation for better comparability, APS' costs were still substantially higher than the average costs of the sub-peer group ($7.51/MWh); the differences, however, were not statistically significant for any of the years.

Power Production O&M expenses have increased over the past five years for both APS and peer group.

c) Transmission Expenses

Overall, APS' Transmission Expenses per customer were not significantly different from the peer group.

On a per customer basis, APS' five-year average Transmission Expenses of $35.56 per customer were substantially lower than the peer average of $50.77; the differences were not statistically significant for any of the years. If excluding the Ohio utilities, the peer average of $34.88 is comparable to APS' costs.

Transmission Expenses have increased over the past five years for both APS and the peer group.

d) Distribution Expenses

Overall, APS' Distribution Expenses per customer were not significantly different from the peer group.

On a per customer basis, APS' five-year average Distribution Expenses of $74.67 per customer were slightly higher than the peer average of $67.34; the differences were not statistically significant for any of the years.

The five-year trend analysis shows that Distribution Expenses have increased over the past five years for APS while the trend is relatively flat for peer companies. The increase in Distribution Expenses on a per customer basis is more noticeable and substantial for APS between year 2006 and 2007.

e) Customer Accounts, Customer Service and Information, and Sales Expenses

Overall, APS' Customer and Sales Expenses were substantially and significantly higher than the peer group for most years.

On a per customer basis, APS' expenses related to Customer Accounts, Customer Service and Information, and Sales Expenses of $84.97 per customer were highest in contrast to the peer average of $57.04.

In addition, APS experienced an increase in Customer and Sales Expenses in 2005, while the trend was relatively flat for peer companies.

f) Administrative and General Expenses

Overall, APS' A&G Expenses per customer were not significantly different from the peer group.

On a per customer basis, APS' five-year average Administrative and General ("A&G") Expenses of $145.50 per customer were slightly lower than the peer average of $167.93; the differences were not statistically significant for any of the years.

APS' A&G Expenses per customer have slightly declined over the years; the substantial decrease in 2005 was mostly offset by the increase in 2006. The peer group shows a slight increase of A&G Expenses per customer over the five-year period.

4. Equity to Debt

Overall, APS' Equity to Capitalization ratio was comparable to the peer group for most years.

At 50% equity to capitalization, APS is comparable to the peer average (48 percent).

APS' Equity to Total Capitalization ratio increased from 46 percent to 52 percent over the five years with a compound annual growth rate of 3.30%, a rate slightly lower than the peer average of 3.81%.

5. Customer Growth

Overall, APS' Customer Growth was substantially and significantly higher than the peer group for most years.

With an average annual customer growth rate of 3.79%, APS is characterized by much higher customer growth as compared to the peer average of 1.66%. The differences were both substantial and significant for most years. NV Energy, however, has the highest average growth rate at 4.00%.

For both APS and the peer group, the customer growth rate peaked in 2006 with a slow-down in 2007.

6. FFO to Debt Ratio

Overall, APS' FFO to Debt Ratio was not significantly different from the peer group except for years 2004 and 2007. However, the differences were substantial for all years.

APS' five-year average Funds From Operations ("FFO") to total debt ratio of 0.20 is substantially lower than the peer average of 0.32; the differences were substantial for all years and significant for years 2004 and 2007[1].

Despite the year to year change, the 2007 APS' FFO to Debt Ratio is comparable to the 2003 level. The amount of Funds from Operations (in dollar) has slightly increased at the compound growth rate of 2.89%, a rate substantially lower than the peer average of 5.27%.

7. Authorized Rate of Return

Overall, APS' Authorized Rate of Return was comparable to the peer group on an adjusted basis for better comparability.

APS' five-year average authorized rate of return on equity is 10.75%. The rate is slightly lower than the peer average of 11.42%; the differences were not significant for any of the years. If excluding Ohio utilities, APS' rate is comparable to the adjusted peer average of 10.61%.

8. Revenue Earned on Rate Base

Overall, APS' Revenue Earned on Rate Base was not significantly different from the peer group.

APS' Revenue Earned on Rate Base of 70.47% was slightly higher than the peer average of 65.86% and slightly lower than the adjusted peer average (excluding Ohio utilities) of 74.95%.

9. Capital Investment Costs

Overall, APS' Capital Investment Costs were not significantly different from the peer group.

APS' five-year average capital expenditures per customer of $604.65 were slightly higher than the peer average of $536.93; the differences were not significant for any of the years.

Over the five-year period of 2003-2007, APS' Capital Investment Costs per customer increased at 15.42%, a rate substantially lower than the peer average of 24.28%. However, the growth rates were comparable in years 2005 to 2007.

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[1] At 90% confidence interval for 2007.

EXECUTIVE SUMMARY

The following table summarizes the benchmark analysis. Significance testing was performed for each year to determine if APS' performance was different from the peer group for that year. For our overall conclusions, we highlighted the areas where APS' performance was significantly different from the peer group for most of the five years that we reviewed.

		APS 5-Yr Average	Peer 5-Yr Average	Comparison with Peers (In bold, if significant for most years)	Basis for Adjustment if Any
1.a	Management Expenses to Sales	0.33%	0.26%	Substantially higher than peers; significant for 2006 and 2007	
1.b	Management Expenses to Sales (w/o change in pension value)	0.25%	0.25%	Comparable to peers	
2.	Dividend Payout Ratio	80.35	61.50 75.23 (adj.)	Substantially higher than peers Slightly higher than peers	 Excluding NV Energy
3.a	Total Operations and Maintenance Expense per Customer	$607.45	$555.92 $668.91 (adj.)	Slightly higher than peers Slightly lower than peers (adj.)	 Only including peers with nuclear generation
3.b	Total Operations and Maintenance Expense per MWh Production	$25.21	$21.69 $18.17 (adj.)	Slightly higher than peers Substantially higher than peers (adj.)	 Only including peers with nuclear generation
3.1.a	Production O&M Costs per Customer	$266.75	$212.23 $274.71(adj.)	Substantially higher than peers Comparable to peers (adj.)	 Only including peers with nuclear generation
3.1.b	Production O&M Costs per MWh Production	$11.04	$8.08 $7.51 (adj.)	Substantially higher than peers Substantially higher than peers (adj.)	 Only including peers with nuclear generation

EXECUTIVE SUMMARY

		APS 5-Yr Average	Peer 5-Yr Average	Comparison with Peers (In bold, if significant for most years)	Basis for Adjustment if Any
3.2.	Transmission Expense per Customer	$35.56	$50.77 $34.88 (adj.)	Substantially lower than peers Comparable to peers (adj.)	Excluding Ohio-based peers
3.3.	Distribution Expense per Customer	$74.67	$67.34	Slightly higher than peers	
3.4.	**Customer and Sales Expenses per Customer**	**$84.97**	**$57.04**	**Significantly & substantially higher than peers**	
3.5.	Administrative and General Expenses per Customer	$145.50	$167.93	Slightly lower than peers	
4.	Equity to Capitalization	0.50	0.48	Comparable to peers	
5.	**Annual Customer Growth Rate**	**3.79%**	**1.66%**	**Significantly & substantially higher than peers**	
6.	FFO to Debt Ratio	0.20	0.32	Substantially lower than peers; significant for 2004 and 2007	
7.	Authorized Rate of Return	10.75%	11.49% 10.66% (adj.)	Slightly lower than peers Comparable to peers (adj.)	Excluding Ohio-based peers (1991 rate case, no fuel cost recovery until 2005, etc.)
8.	Revenue Earned on Rate Base	70.47%	65.86% 74.95% (adj.)	Slightly higher than peers Slightly lower than peers (adj.)	Excluding Ohio-based peers (1991 rate case, no fuel cost recovery until 2005, etc.)
9.	Capital Investment Costs per Customer	$604.65	$536.93	Slightly higher than peers	

EXECUTIVE SUMMARY

Recommendations

Virchow Krause views that the areas of substantial and significant differences including the following items need to be further reviewed to identify root causes and steps to address potentially lagging performance. This could be accomplished by APS providing more information and answers to the Staff's inquiries or a detailed study conducted by an independent third party.

- Customer and Sales Expenses - substantial for all years; significant for most years
- FFO to Debt Ratio - substantial for all years; significant for 2004 and 2007

SECTION 1
INTRODUCTION

Virchow Krause was engaged by the Arizona Corporation Commission Staff ("Staff") as an expert witness in proceedings regarding Arizona Public Service Company's ("APS") performance, results and expenses over the past five years benchmarked against a list of five similarly situated companies. APS is an Arizona utility providing electricity to more than 1 million customers in 11 of Arizona's 15 counties. With its headquarters in Phoenix, APS is the largest wholly owned subsidiary of the publicly traded Pinnacle West Capital Corporation ("PWCC").

Virchow Krause was instructed to select peers that were investor-owned electric utilities comparable with respect to customers and revenues. Virchow Krause developed a peer selection methodology to address the comparability of customers and revenues and other operating and financial characteristics. This methodology was developed to eliminate bias in the selection process. The peer selection methodology is described in detail in Section Four of this report.

The peer group of integrated investor-owned electric utilities for benchmarking comparison is comprised as follows:

- Great Plains Energy, Inc. / Kansas City Power & Light
- The Dayton Power and Light Company
- NV Energy
- Entergy-Arkansas, Inc.
- Columbus Southern Power Company

Virchow Krause was directed to highlight distinct differences between APS and the peer group which might contribute to underperformance or otherwise limit APS' performance. Benchmarks were primarily selected for quantifiable measures for comparison of performance. To that end, Virchow Krause has taken due care to normalize data points wherever possible between the peer entities. Although the peer entities have many characteristics similar to APS, objective comparative analysis requires data to be normalized, whether by customer size, revenues, production, or other factors. An explanation of data normalization is provided whenever utilized for a presented benchmark.

Although the focus of this report is on quantifiable financial and operating data points, due to the nature of certain benchmarks, some areas of performance discussion are more qualitative.

The following areas make up the primary performance indicators reviewed under this engagement. Each area includes various statistical and analytical methodologies that are fully explained throughout the body of this report. Each area has also been reviewed as to its contribution to overall performance.

- Management Expense & Dividends
- Operations and Maintenance Expenses
- Equity/Debt ratios
- Customer Growth
- FFO/Debt ratio
- Authorized Rate of Return
- Revenue Earned on Rate Base
- Capital Investment Costs

SECTION 2
LIMITING CONDITIONS AND ASSUMPTIONS

Virchow Krause has performed an analysis of performance benchmarks as determined and agreed upon with the Staff. There are a myriad of potential performance indicators that could be provided under a similar analysis, but Virchow Krause has tailored its analysis to specifically stay within the scope of the engagement.

Key limiting conditions and assumptions relative to this engagement are included for reference below:

1. Financial statements and other related information utilized in the course of this engagement have been accepted without verification as fully and correctly reflecting the peer group's business conditions and operating results for the respective periods, except as specifically noted herein. Virchow Krause has not audited, reviewed, or compiled the financial information provided to us and, accordingly, we express no audit opinion or any other form of assurance on this information.

2. Public information and industry and statistical information have been obtained from sources we believe to be reliable. However, we make no representation as to the accuracy or completeness of such information and have performed no procedures to corroborate the information.

3. The report and analysis are not intended by the author and should not be construed by the reader to be investment advice.

SECTION 3
SOURCES OF INFORMATION

Virchow Krause has relied on publicly available financial and operational data published by the peer entities or from reliable industry research organizations and has not attempted to audit or specifically substantiate financial or operational data utilized in this analysis.

Primary sources of information utilized to compile the report analysis include the following:

- SNL Energy
- Regulatory Research Associates
- Thomson One Banker Analytics / Thompson Financials
- Nuclear Energy Institute
- Energy Information Administration
- Edison Electric Institute
- FERC Form-1 Filings
- SEC 10-K Annual Filings
- Proxy statements
- U.S. Regulated Electric Utilities, Standard & Poor's Ratings Direct, February 1, 2008
- U.S. Utilities, Power and Gas 2009 Outlook, Fitch Ratings, December 22, 2008
- Company websites and certain press releases

SECTION 4
PEER SELECTION

Peer Selection Criteria

In order to develop the most appropriate peer group for a reasonable and fair comparison to APS, Virchow Krause performed extensive due diligence, in concurrence with the Staff, to narrow down the suitable peer group candidates. The primary selection criteria include the following:

- Revenues
- Revenue Growth
- Number of Customers
- Customer Growth
- Generation Portfolio (Nuclear)
- Region (Regulatory environment based on RRA and Southwest region)

Peer Selection Process

Virchow Krause began the peer company due diligence process by selecting companies that operate in states with similar regulatory profiles to Arizona. Virchow Krause utilized state rankings published by Regulatory Research Associates ("RRA"). The assessment provides a regulatory ranking of states using three principal rating categories for regulatory climates: Above Average, Average, and Below Average. Within the principal rating categories, the numbers 1, 2, and 3 indicate relative position. The designation 1 indicates a stronger rating; 2, a mid-range rating; and, 3, a weaker rating. The evaluations are assigned from an investor perspective and indicate the relative regulatory risk associated with the ownership of securities issued by the jurisdiction's utilities. The evaluation reflects an assessment of the probable level and quality of the earnings to be realized by the state's utilities as a result of regulatory, legislative, and court actions.

Thirty-five states within one rank in this regulatory ranking above and below Arizona were included for peer selection.[2]

From this list of entities characterized by similar state regulatory environments, Virchow Krause compared total revenues, revenue growth rates, total customers, and customer growth rates. Also, since APS operates substantial nuclear generation, the generation portfolio of each potential benchmarking peer was also examined. In order to remove potential bias from the partner selection process, Virchow Krause systematically qualified the peer list using the parameters in the following table:

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[2] RRA ranking is proprietary information published by SNL

SECTION 4
PEER SELECTION

Table 1. Peer Selection Methodology

Peer Characteristic	Filter / Requirement
Industry Classification	Integrated Electric Utility (exclude distribution utilities)
Generation Portfolio (1)	Nuclear Generation
Total Revenues (2)	+/- 50% APS 2007 Revenues ($1.5 - $4.4 billion)
Sales Growth Rate (3)	5 Year Compound Sales Growth from 5-10% (APS Growth Rate of 7%)
Total Customers (4)	+/- 50% APS 2007 Customers (500,000 – 1,600,000)
Customer Growth Rate (5)	3 and 5 Year Compound Growth Greater than 1% (APS Growth Rates of 3.92% and 3.83%)

Peer companies were selected by meeting at least three of the five criteria (revenues, revenues growth, number of customers, customer growth, and nuclear generation). Consideration was given to avoid selecting more than one operating company under a parent company to better address the effectiveness of the management. In addition, any potential peers with significant data inconsistencies or anomalies over the five year period were excluded.

Peer Selection Results

The following utilities were selected for inclusion in the peer benchmarking group following the above described methodology.

Table 2. Peer Selection Results*

	(1) Nuclear	(2) 2007 Sales ($millions)	(3) Sales 5 yr Compound Growth[3]	(4) 2007 Customers	(5) Customer Compound Growth		# of Criteria Met
					5 yr	3 yr	
Arizona Public Service Company	**Yes**	**2,936**	**7.00%**	**1,086,328**	**3.92%**	**3.83%**	
NV Energy	No	**3,601**	4.00%	**1,181,009**	**4.01%**	**3.41%**	**3**
Great Plains Energy	**Yes**	**3,267**	12.00%	**514,210**	**1.34%**	**1.63%**	**4**
Columbus Southern Power Company	No	**2,043**	**8.00%**	**745,133**	**1.83%**	**2.49%**	**4**
Entergy Arkansas	**Yes**	**2,033**	**5.00%**	**685,502**	0.87%	0.98%	**4**
Dayton Power & Light Company	No	**1,507**	**5.00%**	**514,405**	0.45%	0.27%	**3**

***Bold Entries fall within the acceptable bandwidth for peer comparison.**

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[3] Source: Thompson Financials

SECTION 4
PEER SELECTION

Peer Company Background[4]

Great Plains Energy, Inc.: The Group's principal activity is to generate, transmit, distribute and sell electricity. Its business segments include **Kansas City Power & Light (KCP&L)** and Strategic Energy. KCP&L is an integrated, regulated electric utility involved in the generation, transmission, distribution and sale of electricity. KCP&L has over 4,000 MWs of generating capacity and has transmission and distribution facilities that provide electricity to almost 500,000 customers in the states of Missouri and Kansas. Strategic Energy provides competitive electricity supply services by entering into contracts with its customers to supply electricity. It operates in California, Maryland, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania and Texas. Strategic Energy was recently divested.

Great Plains fit the peer selection methodology as an aggregate whole. However, to provide a more useful comparison of historical performance, benchmarked data for comparison will be examined at the KCP&L entity level. KCP&L is a regulated, integrated utility that serves as a suitable benchmarking peer with APS.

Columbus Southern Power Company: The Group's principal activity is to generate, transmit and distribute electric power to approximately 746,000 retail customers in Ohio. It also supplies and markets electric power at wholesale to other electric utilities, municipalities and other market participants. The Group's service area is comprised of two areas in Ohio, which include portions of twenty-five counties. One area includes the City of Columbus and the other is a predominantly rural area in south central Ohio. The Group is a wholly owned public utility subsidiary of American Electric Power Company Inc and is interconnected with unaffiliated utility companies such as Duke Ohio, DP&L and Ohio Edison Company. As of 31-Dec-2007, it had 1,265 employees.

NV Energy: NV Energy has served customers in northern Nevada and northeastern California for over 150 years, and southern Nevada since 1906. Nevada Power, Sierra Pacific Power and Sierra Pacific Resources merged in July 1999 to create one of the fastest growing energy companies listed on the New York Stock Exchange. In 2008, both subsidiaries changed their names to NV Energy. NV Energy's service area covers 54,500 square miles of the fastest growing state in the United States providing electricity to 2.4 million electric customers throughout Nevada and in northeastern California as well as a state tourist population exceeding 40 million annually. Although NV Energy owns a small amount of natural gas utility assets, historical data will still be examined on a parent company level since such amounts are immaterial as compared to the integrated electric utility data set.

Dayton Power and Light Company: The Group's principal activity is to generate and market electricity to residential, commercial, industrial and governmental customers in a 6,000 square mile area of West Central Ohio. The electricity is distributed to the Group's 24 county service areas. The electricity is generated at eight power plants and is distributed to more than 515,000 retail customers. The parent of DP&L is DPL, Inc.

Entergy Arkansas, Inc.: Entergy Arkansas, Inc., a wholly owned subsidiary of Entergy Corp., is a vertically integrated electric utility. The Group's principal activity is to generate, transmit and distribute electricity in Arkansas. Entergy Arkansas serves more than 684,100 residential, commercial, industrial, and government customers in 63 eastern and central Arkansas counties. Residential customers account for about 84% of total customers. The Entergy subsidiary also has interests in fossil-fueled, nuclear, and hydroelectric power generation facilities with almost 4,500 MW of capacity.

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[4] Primary data source: Thompson Financials

SECTION 5
BENCHMARKING ANALYSIS—MANAGEMENT EXPENSES

1. Management Expenses

Management Expenses Approach

For the purpose of this analysis, Management Expenses has been defined as executive compensation. The compensation information for the top five most highly compensated individuals is disclosed annually for publicly traded companies on a Proxy Statement pursuant to Section 14a of the Securities Exchange Act of 1934 ("Proxy Statement"). The Proxy Statement is only required to be filed at the parent company level. Therefore, our analysis of Management Expenses is at the parent company level as well. The sum of total annual compensation for the top five most highly compensated individuals reported in proxy statements[5] will be "normalized" by revenues for better comparability. A listing of parent companies for the peer group that serves as the data point for comparison is as follows:

Table 3. Peer Group Parent Companies

Peer Entity	Parent Company
Arizona Public Service Company	Pinnacle West Capital Corporation
NV Energy	NV Energy
Kansas City Power & Light	Great Plains Energy
Columbus Southern Power Company	American Electric Power
Entergy Arkansas	Entergy Corporation
Dayton Power & Light Company	DPL, Inc

Management Expenses Results

a) Management Expenses Over Sales

At first glance, for the five-year average of Proxy Statement Management Expenses, APS' management expenses over sales of 0.33% fell close to the peer group average of 0.31%. Upon further investigation of the Management Expense data points, it was noted that 2003 Management Expenses of DPL, Inc were extraordinary due to extensive management transition expenses.

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[5] In addition, Virchow Krause performed an additional analysis using the executive compensation data from SNL. SNL utilizes proxy statements and makes certain adjustments including annualizing salaries for new hires. The analysis using SNL data was comparable with our results.

SECTION 5
BENCHMARKING ANALYSIS—MANAGEMENT EXPENSES

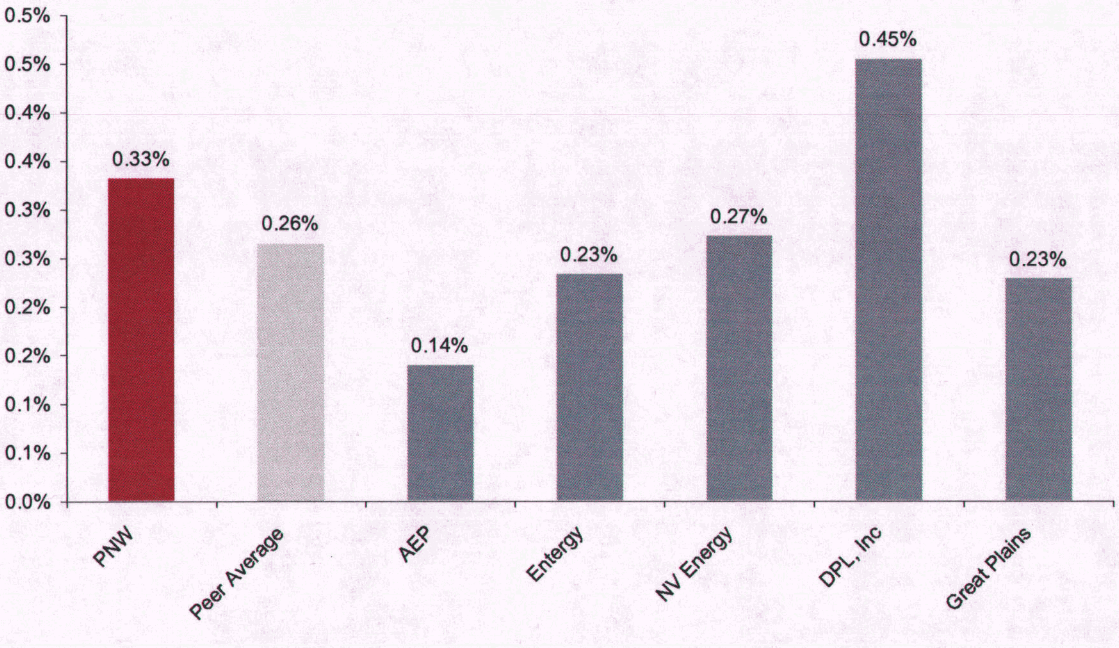
The 2003 DPL data deviated significantly from its historical trend and therefore it was determined to not be an effective comparable measure for this analysis. Upon removal of this outlier (2003 DPL data), the peer group Management Expense average decreased to 0.26% of sales. In this case, Management Expenses normalized on a basis of annual sales at the Pinnacle West Capital Corporation level were substantially higher than the peer average and second only to costs incurred at DPL, Inc.

Overall, APS' Management Expenses were not significantly different from the peer group for most years. In 2006 and 2007, however, APS' management expenses were substantially and significantly higher than the peer group.

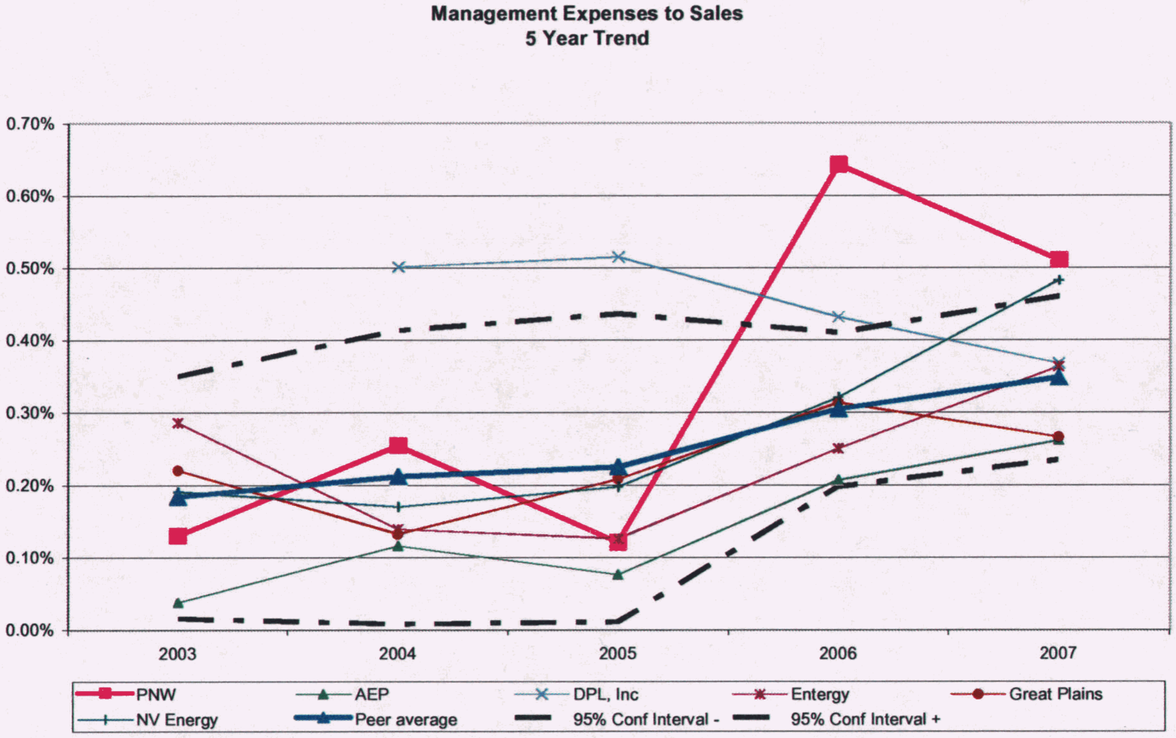
The trend analysis between PNW and the peer average indicates that PNW's management expense to sales ratio increased substantially in 2006 compared to its peer group. In 2007, the PNW's ratio was still substantially higher than the peer average but by a smaller margin.

Five-year average results and a five-year trend comparison of Management Expenses (at the parent company level for this benchmark) were as follows.

Management Expenses to Sales Ratio
5 Year Average



SECTION 5
BENCHMARKING ANALYSIS—MANAGEMENT EXPENSES



b) Management Expenses (Less Change in Pension Value and Deferred Charges) Over Sales

Management Expenses reported on the Proxy Statement include a non-current expense item, the *Change in Pension Value and Nonqualified Deferred Compensation Earnings*. Since this item is not expensed during the current period, we performed an analysis excluding this item. However, with regard to the historically non-current item, *Long Term Incentive Payouts,* prior to the implementation of FAS 123R, we applied the current accounting requirement and included them in our calculation. A review of parent company Management Expenses adjusted for the Change in Pension Value and Nonqualified Deferred Compensation Earnings finds APS at 0.25%, consistent with the peer group.

Overall, APS' management expenses (adjusted to exclude change in pension value and deferred charges) were not significantly different from the peer group in all years except 2006. In 2006, APS' management expenses were substantially and significantly higher than the peer group.

The historical trend analysis shows that APS' 2006 management expense ratio was substantially higher than the 2006 peer average. APS' 2007 ratio is still above its peer average but by a smaller margin.

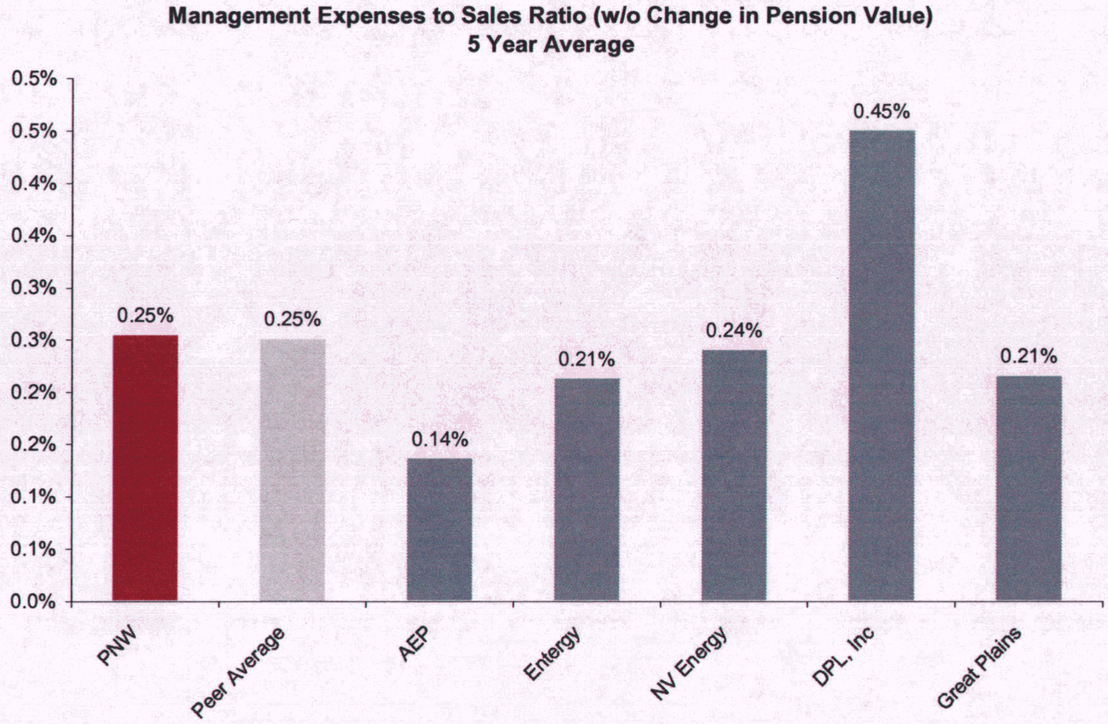
SECTION 5
BENCHMARKING ANALYSIS—MANAGEMENT EXPENSES

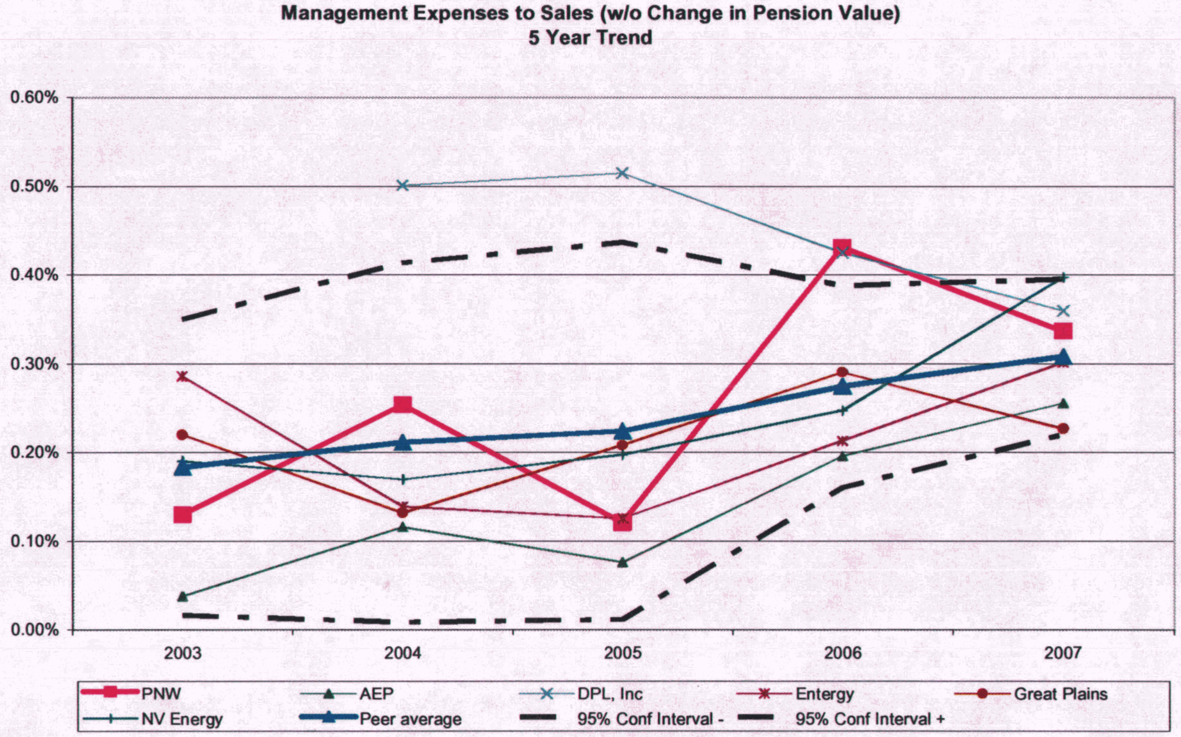
3) Other Considerations

APS stated that a certain portion of its executive compensation is billed to the third party entities through a Participating Agreement. Other companies in our peer group may also have similar arrangements. We did not include this in our analysis since there is no publicly available data for the entire peer group and APS. Had this allocation been included in our calculation, APS' management expense ratio would have been lower than those presented above.

Five-year average results and a five-year trend comparison of Adjusted Management Expenses (at the parent company level for this benchmark) have been included graphically as follows:

SECTION 5
BENCHMARKING ANALYSIS—MANAGEMENT EXPENSES





SECTION 5
BENCHMARKING ANALYSIS—DIVIDENDS

2. Dividends

Dividends Approach

Virchow Krause has completed an examination of the dividends issued by APS as compared to the panel. For this analysis, Virchow Krause compared the Dividend Payout Ratio of APS and each of the peer companies.
The Dividend Payout Ratio as defined by Thompson Financials is as follows:

*DIVIDEND PAYOUT = Common Dividends (Cash)/ (Net Income before Preferred Dividends - Preferred Dividend Requirement) * 100*

Virchow Krause also reviewed the amount of cash dividends paid by APS compared to Pinnacle West to assess the source of the dividends.

Dividend Payout Ratio Results

APS' five-year average Dividend Payout Ratio of 80.35 was substantially higher than the peer average of 61.5, and second only to Kansas City Power and Light, whose ratio is greatest at 86.27. It is noted that NV Energy's Dividend Payout Ratio is substantially lower than the rest of the peer group at 6.56. If excluding NV Energy for better comparability, APS' Dividend Payout Ratio was slightly higher than the adjusted peer group average (75.23); the difference, however, is not statistically significant for most years.

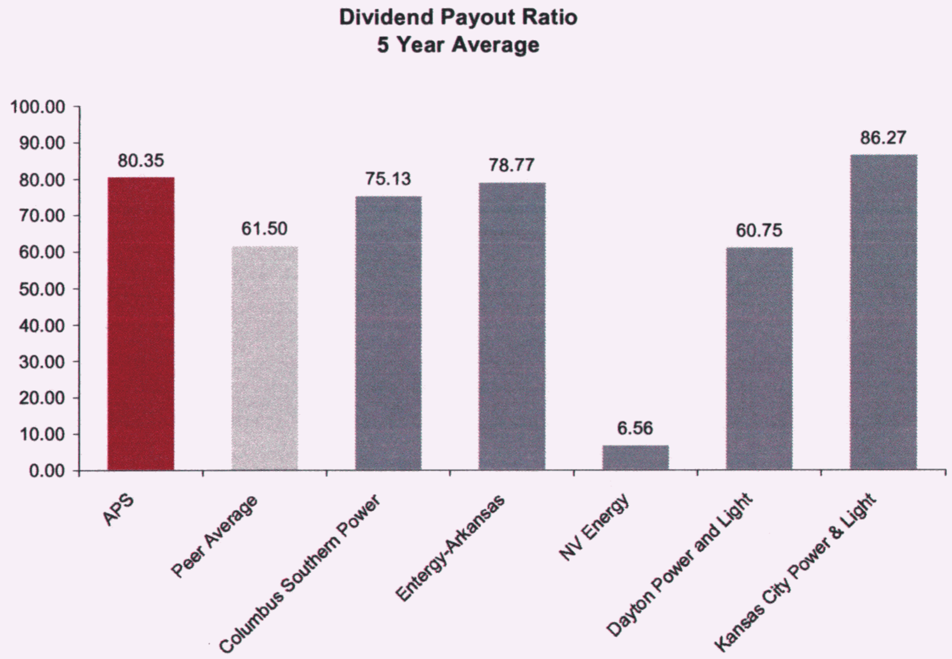
Overall, APS' Dividend Payout Ratio was not significantly different from the peer group for all years except 2005. In 2005, APS' Dividend Payout Ratio was substantially and significantly higher than the peer group.

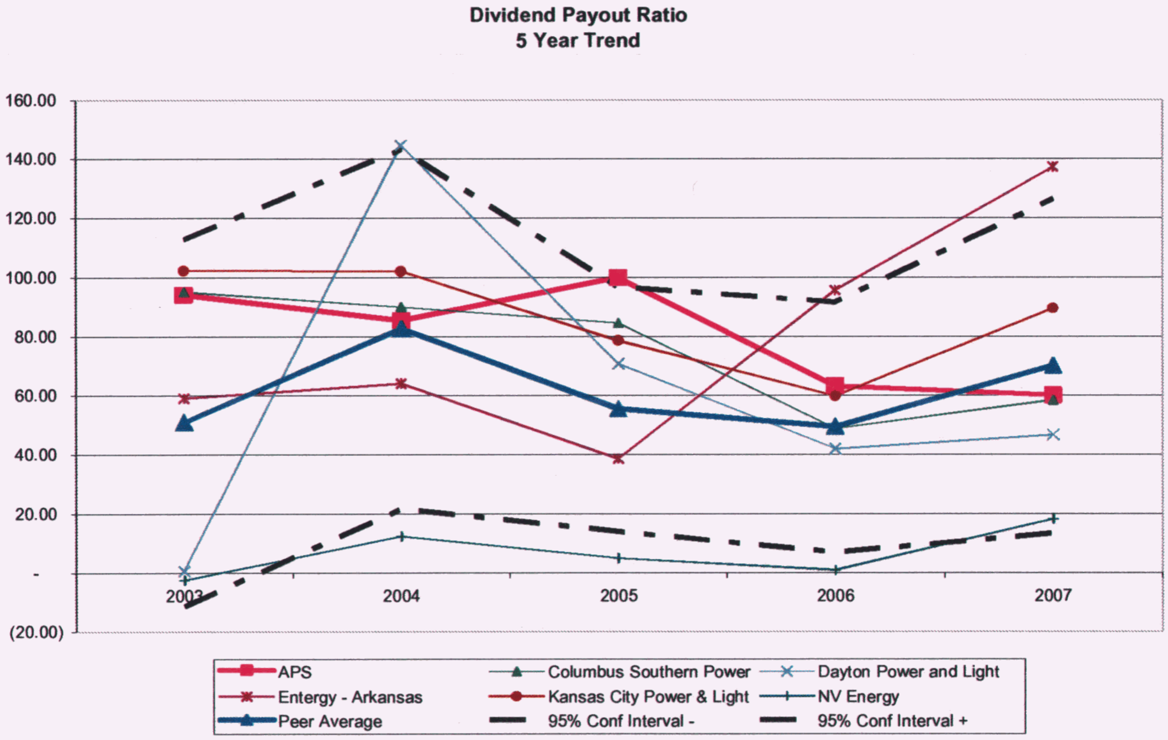
Based on the five-year trend analysis, APS' Dividend Payout Ratio exceeded the peer group average for all years except 2007. APS' Dividend Payout Ratio decreased over five years while the peer group's ratio slightly increased.

In general, the greater percentage of dividend payout will leave a smaller amount of retained earnings available for internal operations or infrastructure construction. Absence of these funds may lead to heavier reliance upon outside financing.

Five-year average results and a five-year trend comparison of Dividend Payout Ratio of APS compared to the peer group have been included graphically as follows:

SECTION 5
BENCHMARKING ANALYSIS—DIVIDENDS





SECTION 5
BENCHMARKING ANALYSIS—DIVIDENDS

Virchow Krause also reviewed the amount of Cash Dividends Paid by APS compared to PNW to assess the source of the dividends paid by PNW.

The following table compares the yearly Cash Dividends Paid for APS and Pinnacle West Capital Corporation. The table also shows PNW's Dividend Per Share (DPS) historical trend.

Table 4. Cash Dividends Paid Comparison – APS to PNW

	2007	2006	2005	2004	2003
APS: Cash Dividend Paid (in $MM)	170.00	170.00	170.00	170.00	170.00
PNW: Cash Dividend Paid (in $MM)	210.47	201.22	186.68	166.77	157.42
APS to PNW (%)	81%	84%	91%	102%	108%
PNW Dividend Per Share (DPS)	2.10	2.03	1.93	1.83	1.73
PNW Dividend Per Share (DPS) 5 yr Average	1.92	1.83	1.73	1.63	1.53

APS' Cash Dividend Paid has been constant at $170 MM for the past five years, while PNW's amount has been increasing. The five-year compound growth rate of PNW's DPS is 5.04%.

SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE

3. Operations and Maintenance

Operations and Maintenance Approach

Virchow Krause has completed an examination of operations and maintenance ("O&M") expenses of APS as compared to the peer companies. O&M expense data was compiled from the FERC Form-1 compilations of the peer group. The following accounts, as listed by FERC, were utilized in the analysis[6].

Table 5. FERC Operations and Maintenance Expense Accounts

FERC Account	Account Description
500-557	Power Production Expenses
560-573	Transmission Expenses
575-576	Regional Market Expenses
580-598	Distribution Expenses
901-905	Customer Accounts Expenses
907-910	Customer Service and Informational Expenses
911-916	Sales Expenses
920-935	Administrative and General Expenses

Operations and Maintenance Results

Virchow Krause's analysis of O&M expenses was performed at the sub-account level in order to provide a comparison between the peer entities by type of expense. In order to investigate the root causes of expense deviations within the peer group, it is important to first segment the costs by type. For example, it may not be fair to scrutinize a company's aggregate operations and maintenance costs against the peer group if its transmission costs are substantially higher due to local market conditions or a vast difference in customer geography.

As part of the benchmark analysis, Virchow Krause started with reviewing the historical trend of APS' operation and maintenance expenses by cost type and compared with total customers. The following graph represents the trend of Total O&M Expense compared to Total Customers.

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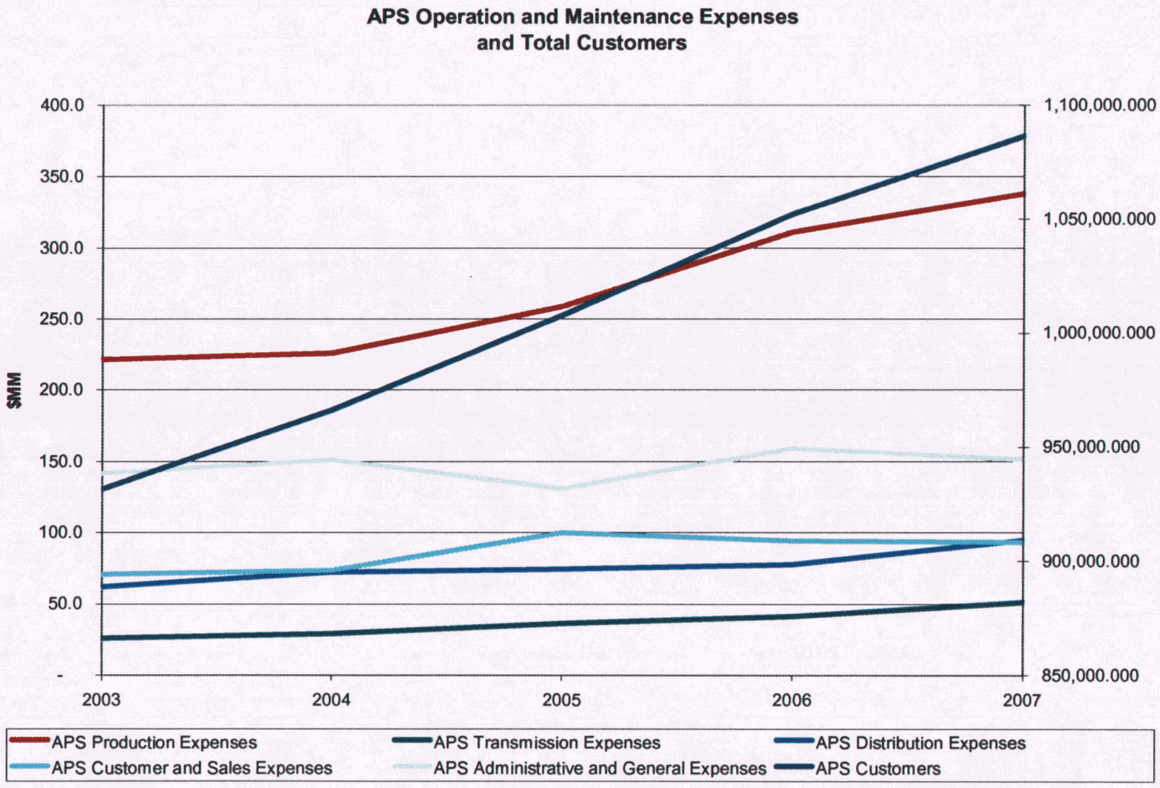
[6] Fuel Costs and Purchased Power Costs within the FERC accounts used for Operations and Maintenance Expense Comparison were excluded from this analysis.

SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE


APS Operation and Maintenance Expenses and Total Customers

A summary of the analysis within each expense category is included as follows. Charts that illustrate both five-year peer average data as well as five-year trend data are included thereafter.

a) Total Operations and Maintenance ("O&M") Expenses

Total O&M Expenses were examined relative to total customers, and actual MWh of production.

On a per customer basis, APS' five-year average Total O&M Costs of $607.45 per customer were slightly higher than the peer average of $555.92; the differences were not significant for any of the years. Alternatively, APS' costs were slightly lower compared to the average costs of the peer companies with nuclear generation ($668.91)[7]. The differences, however, were not statistically significant for any of the years except 2003.

Overall, APS' Total O&M Expenses per customer were not significantly different from the peer group for most years.

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[7] The comparison with the adjusted peer group is warranted since nuclear generation involves higher production O&M costs than other fuel sources. As production costs are a major component of total operations and maintenance expenses (around 40 percent for our peer group), generation portfolios naturally affect the comparison of total operations and maintenance expenses.

SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE

The trend analysis shows that APS' O&M expenses per customer increased at a rate comparable to the peer average.

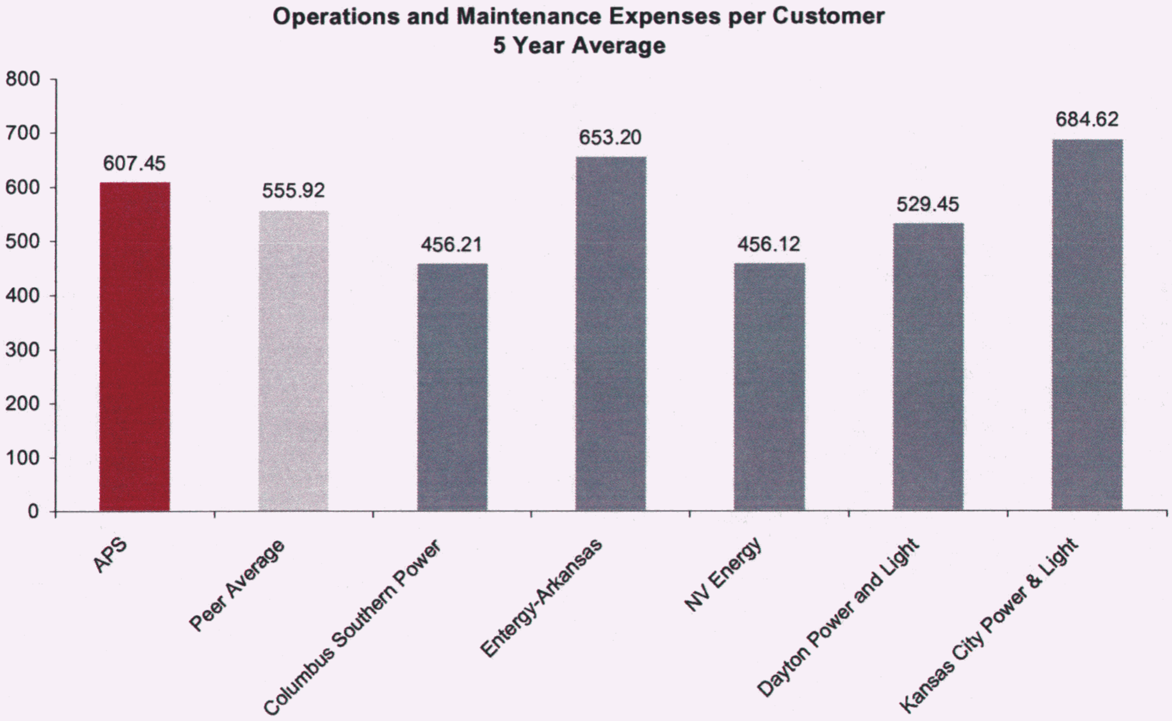
On a per MWh production basis, APS' O&M Costs of $25.21/MWh were slightly higher than the peer group average of $21.69/MWh. APS' costs were substantially higher compared to the average costs of peer companies with nuclear generation ($18.17). Neither difference, however, was statistically significant for the most part. Peer group expenses varied on a production basis from $15.86 to $33.71 per MWh.

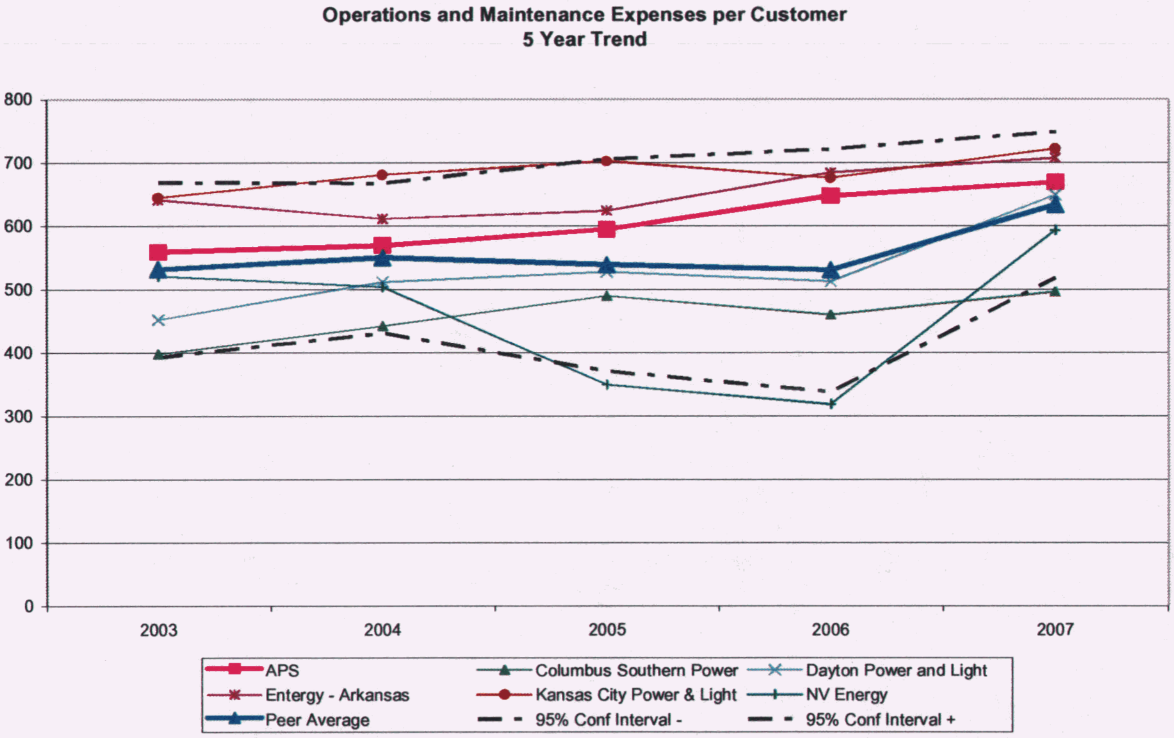
Overall, APS' Total O&M Expenses per MWh were not significantly different from the peer group for most years.

The trend analysis shows that APS' O&M expenses per MWh were relatively flat over the past five years.

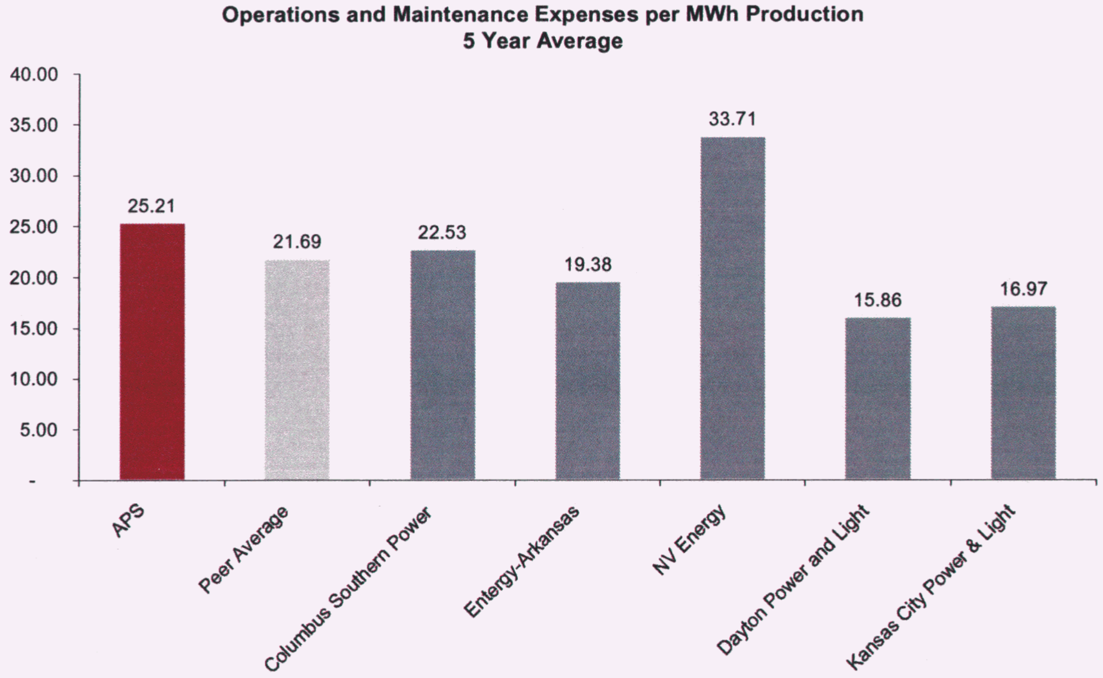
Five-year average results and a five-year trend comparison of O&M expenses of APS compared to the peer group have been included graphically as follows:

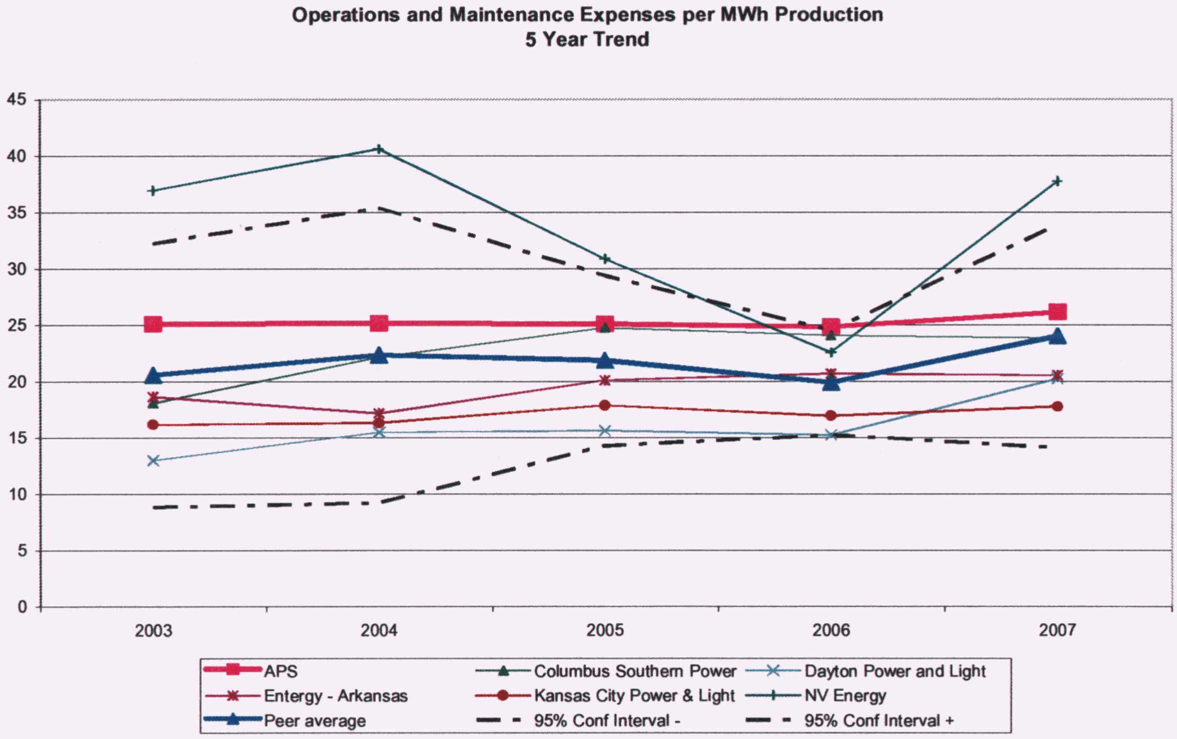
SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE





SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE





SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE

b) Power Production O&M Expenses

Power Production Expenses refer to all costs directly attributable to electric power generation. Power Production Expenses is the total cost of fuel and operation and maintenance ("O&M"). The scope of our analysis is to review the O&M expenses related to power production excluding fuel.

On a per customer basis, APS' five-year average of Power Production O&M Expenses of $266.75 per customer were substantially higher than the peer average of $212.23; the differences, however, were not statistically significant for any of the years. It should be noted that the top three entities ranked highest in this ratio all have nuclear in their generation portfolio; the companies include Entergy Arkansas, Kansas City Power and Light, and APS. Resource portfolios of APS and the panel are included in the Appendix. This is fairly intuitive as O&M Costs generally make up 73 percent of the overall production costs of the nuclear power (Source: Nuclear Energy Institute). APS' costs were comparable to the average costs of sub-peer group with nuclear generation ($274.71).

Overall, APS' Power Production O&M Expenses per customer were not significantly different from the peer group.

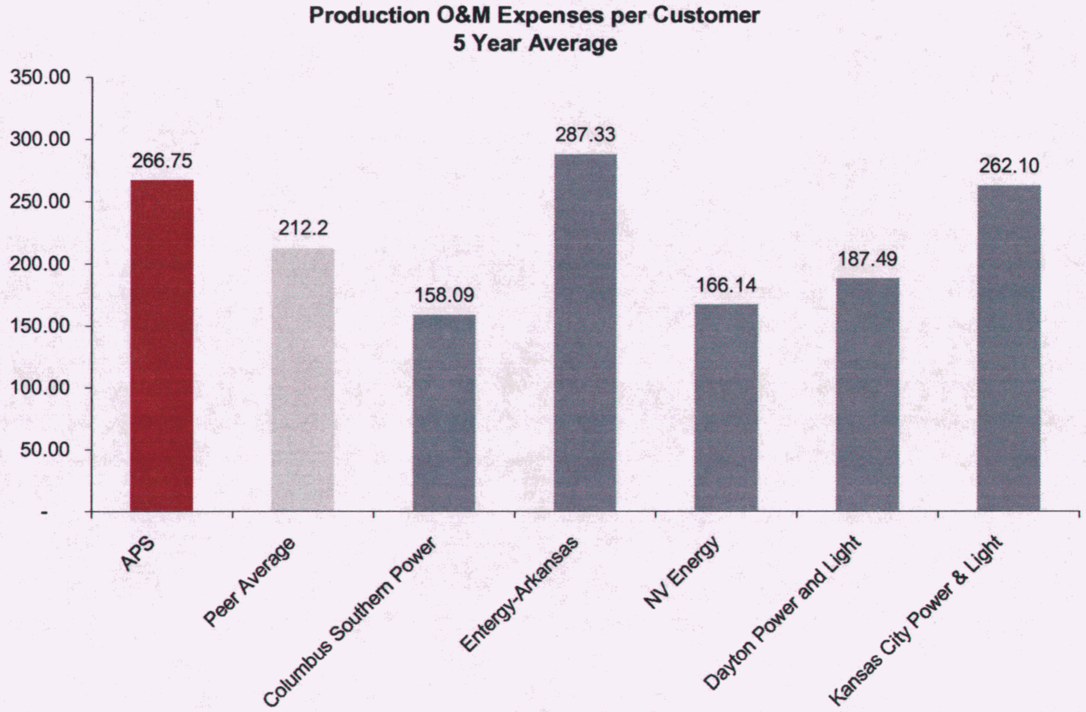
On a per MWh produced basis, APS' Power Production O&M Expenses of $11.04/MWh were substantially higher than the peer average of $8.08 MWh. The differences were statistically significant for 2005 and 2006. It appears that the 2005 and 2006 peer data were skewed by NV Energy who experienced a substantial change in resource portfolio during that period. In addition, the result is somewhat expected as the peer group included utilities without nuclear generation. A comparison with the adjusted peer group is warranted since nuclear generation involves higher production O&M costs than other fuel sources. Alternatively, compared with the sub-peer group with nuclear generation for better comparability, APS' costs were still substantially higher than the average costs of the sub-peer group ($7.51/MWh); the differences, however, were not statistically significant for any of the years.

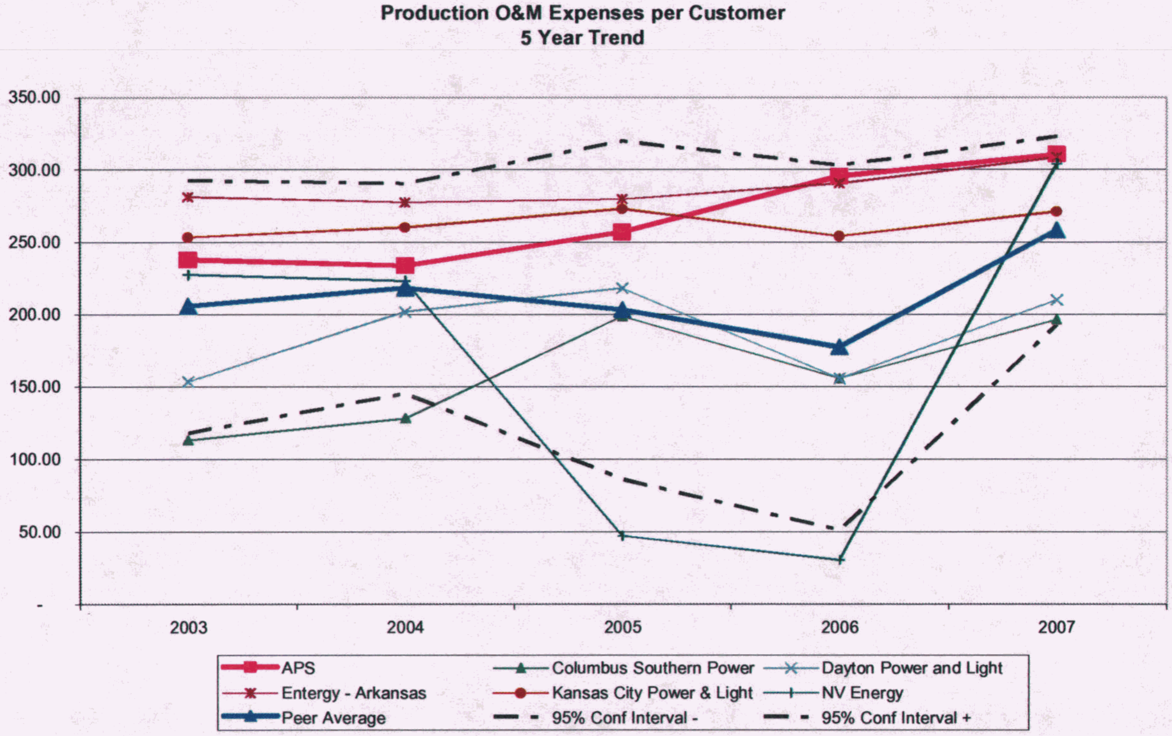
Overall, on an adjusted basis for better comparability, APS' Power Production O&M Expenses per MWh were not significantly different from the peer group.

The five-year trend analysis shows that Production O&M expenses have increased over the past five years for both APS and the peer group.

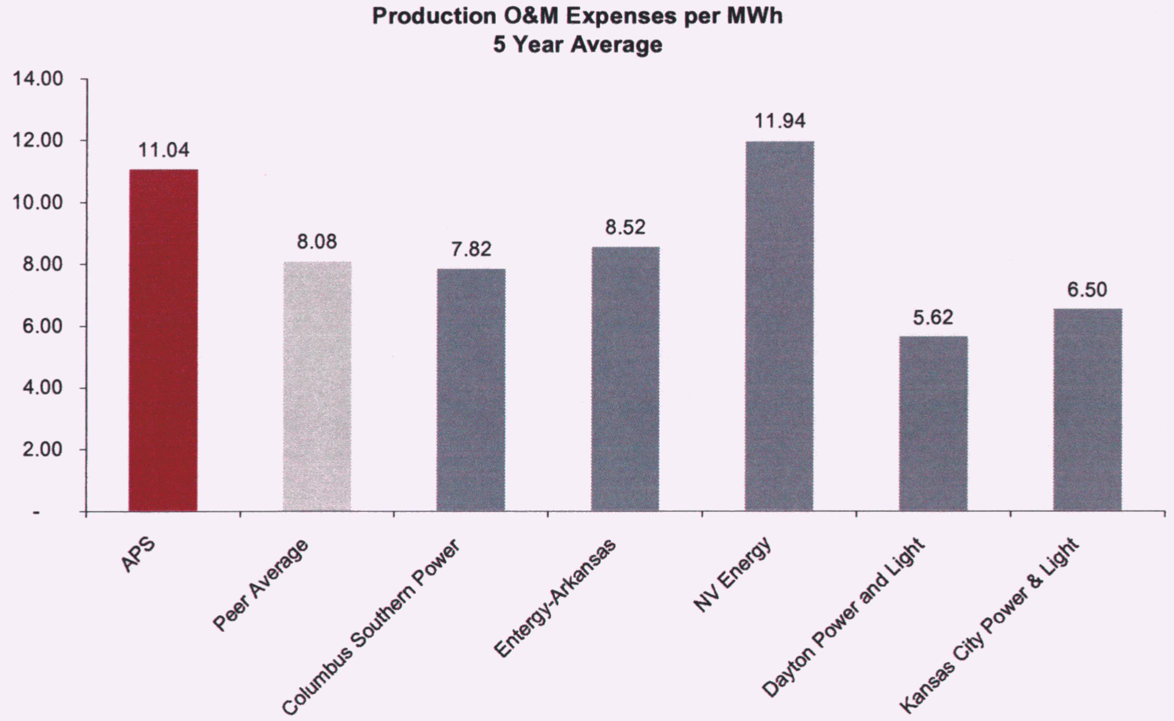
Five-year average results and a five-year trend comparison of power production O&M expenses of APS compared to the peer group have been included graphically as follows:

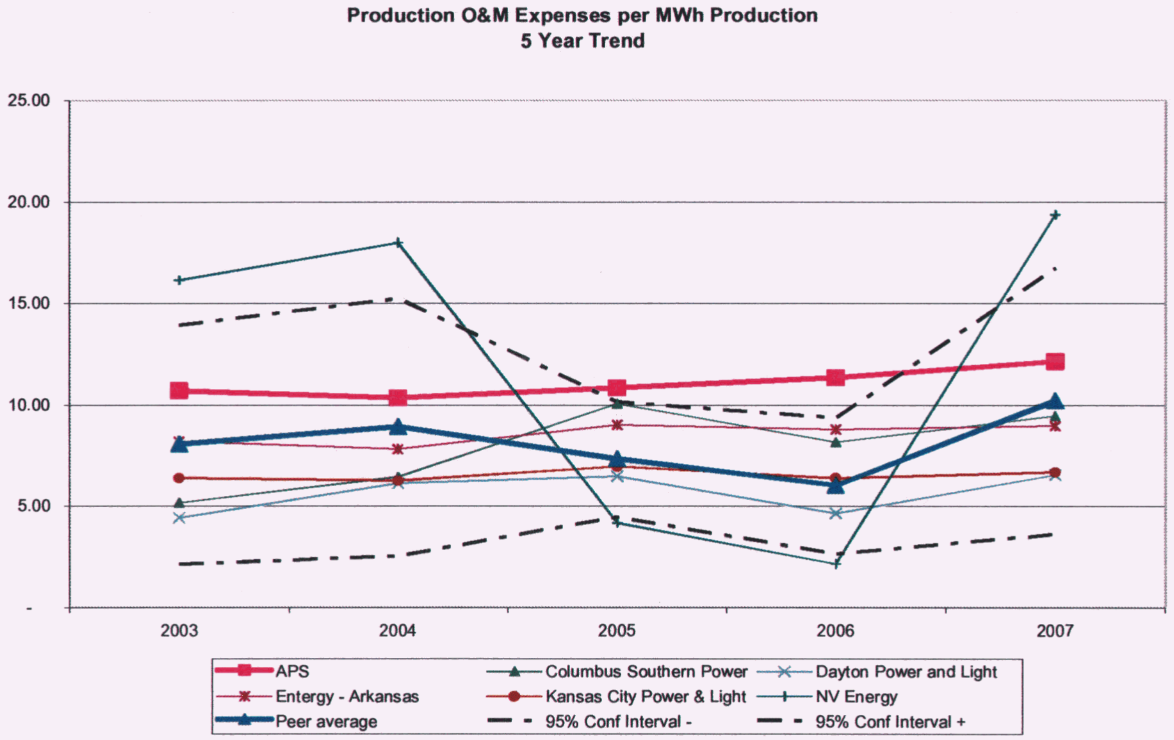
SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE


Production O&M Expenses per Customer
5 Year Average

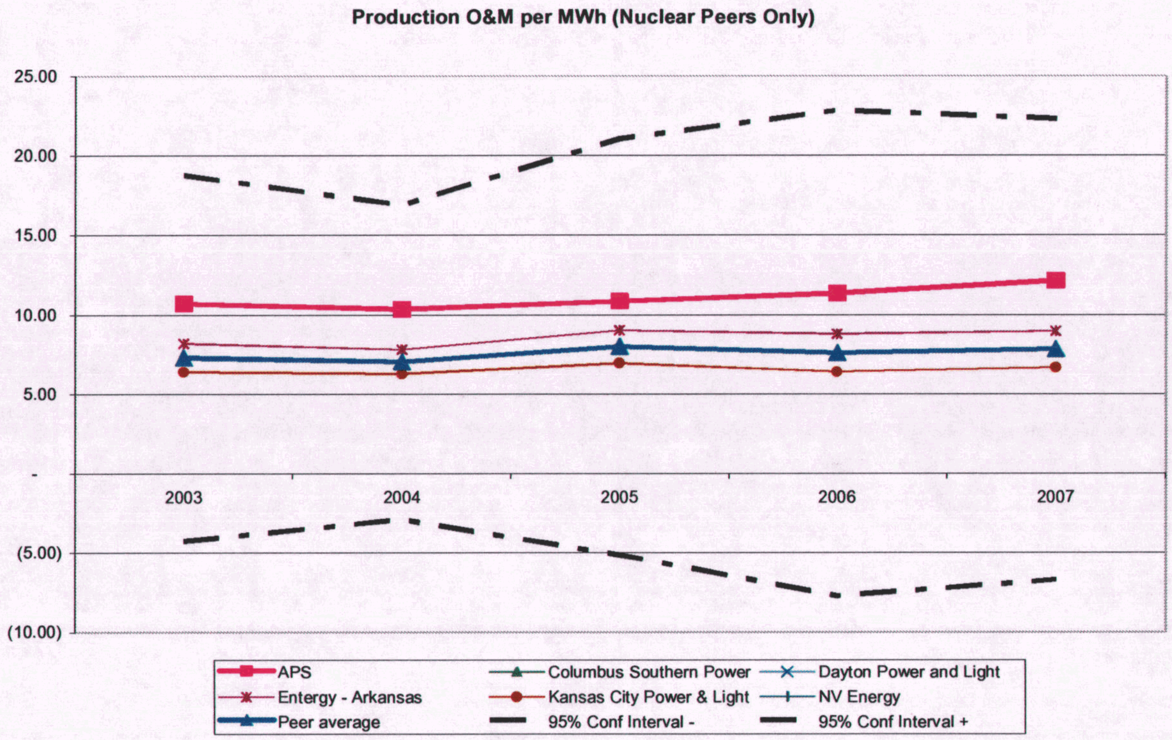

Production O&M Expenses per Customer
5 Year Trend

SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE





SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE



c) Transmission Expenses

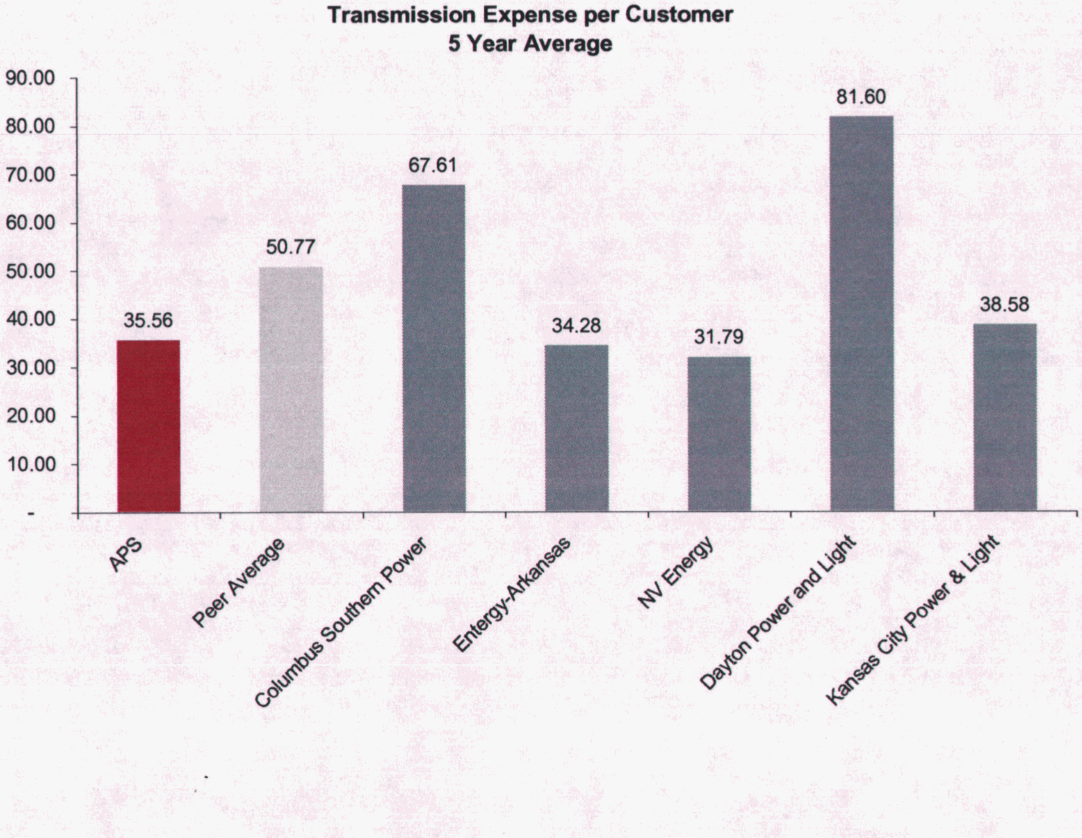
On a per customer basis, APS' Transmission Expenses of $35.56 per customer were substantially lower than the peer average of $50.77; the differences were not statistically significant for any of the years.

The Ohio based peers (Dayton Power and Light and Columbus Southern Power Company) show substantially higher Transmission Expenses compared to the peer groups, greatly affecting the peer average. For a better assessment of Transmission Expenses, consideration should be given to regional characteristics of peer companies. If excluding the Ohio-based peers, the average peer is $34.88, a level comparable to APS' performance.

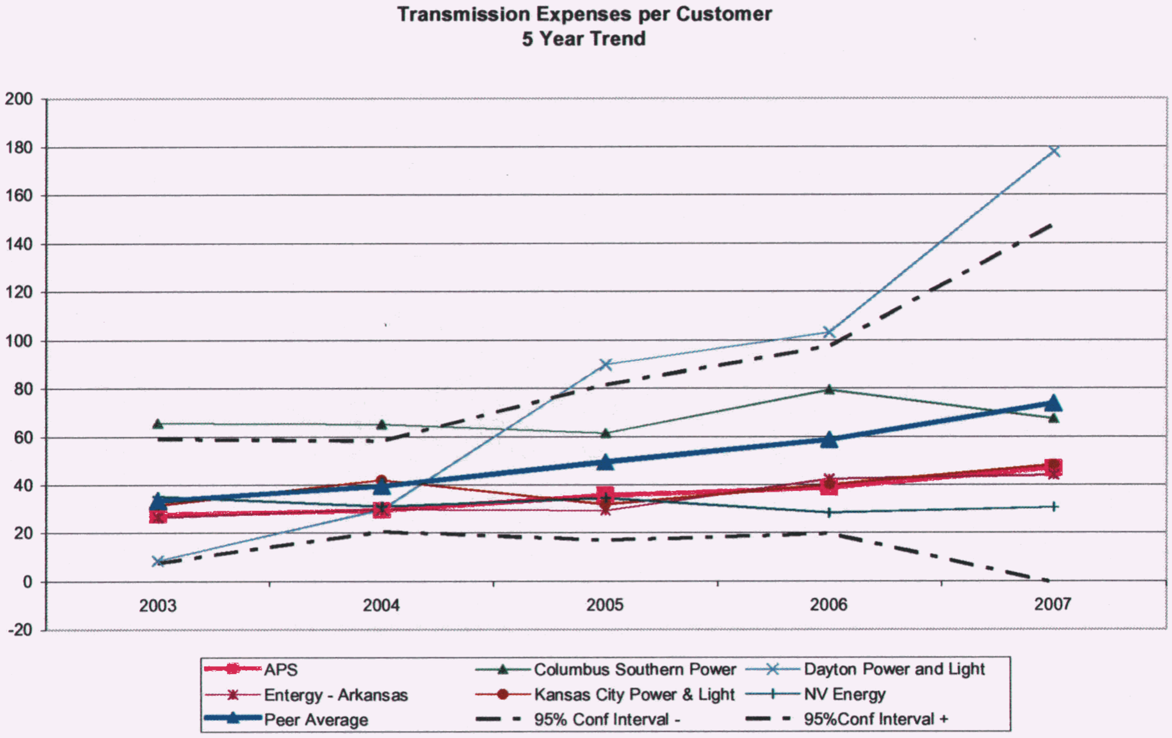
Overall, APS' Transmission Expenses per customer were not significantly different from the peer group.

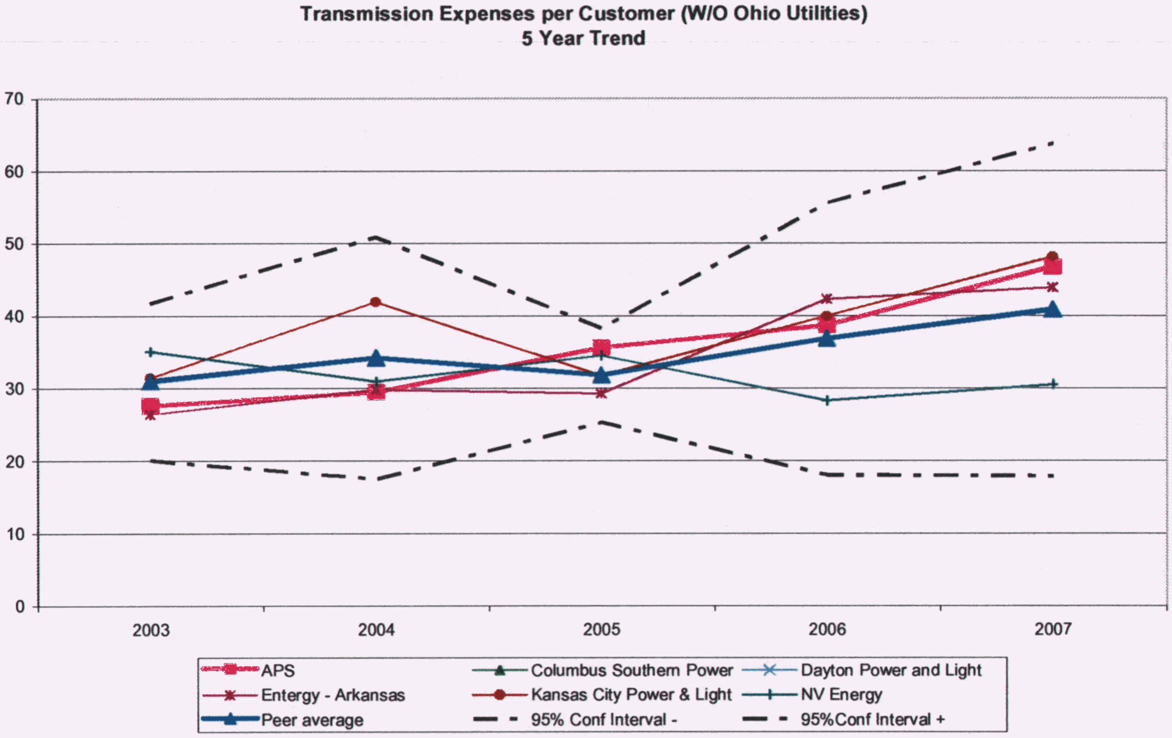
The five-year trend analysis shows that Transmission Expenses have increased over the past five years for both APS and the peer companies.

Five-year average results and a five-year trend comparison of Transmission Expenses of APS compared to the peer group have been included graphically as follows:



SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE





SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE

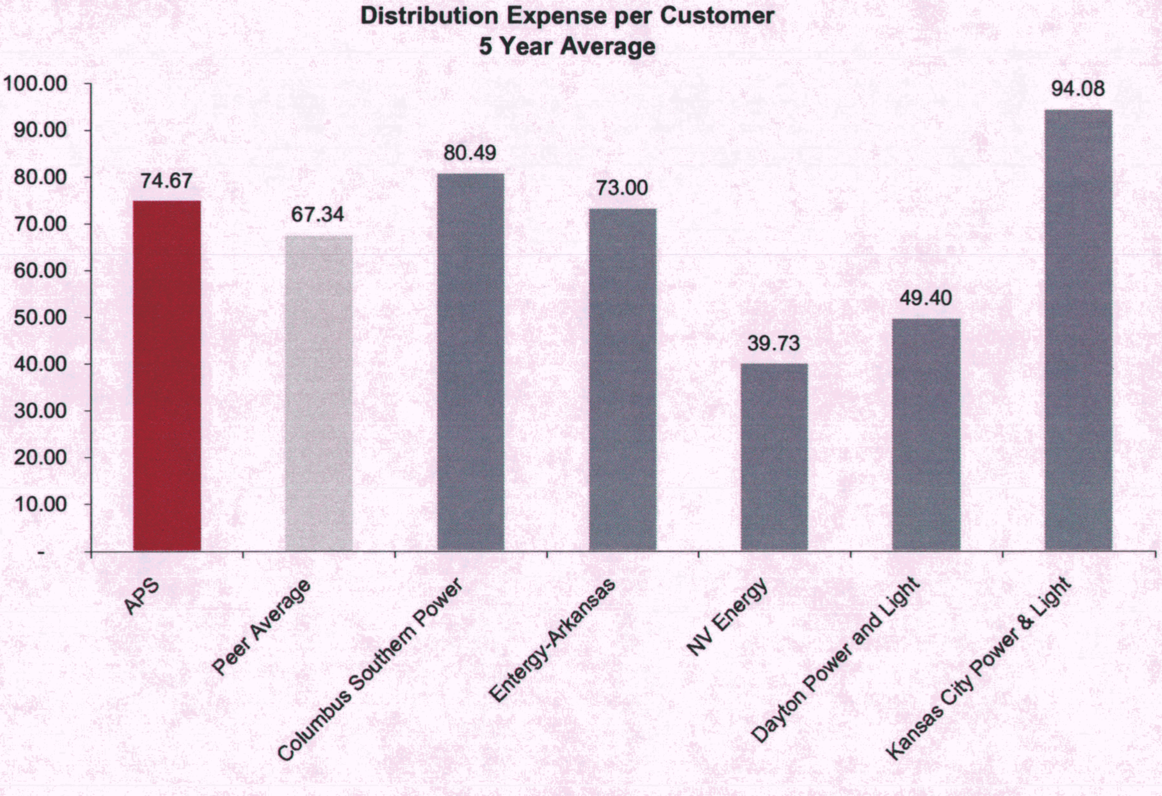
d) Distribution Expenses

On a per customer basis, APS' five-year average Distribution Expenses of $74.67 per customer was slightly higher than the peer average of $67.34; the differences were not statistically significant for any of the years.

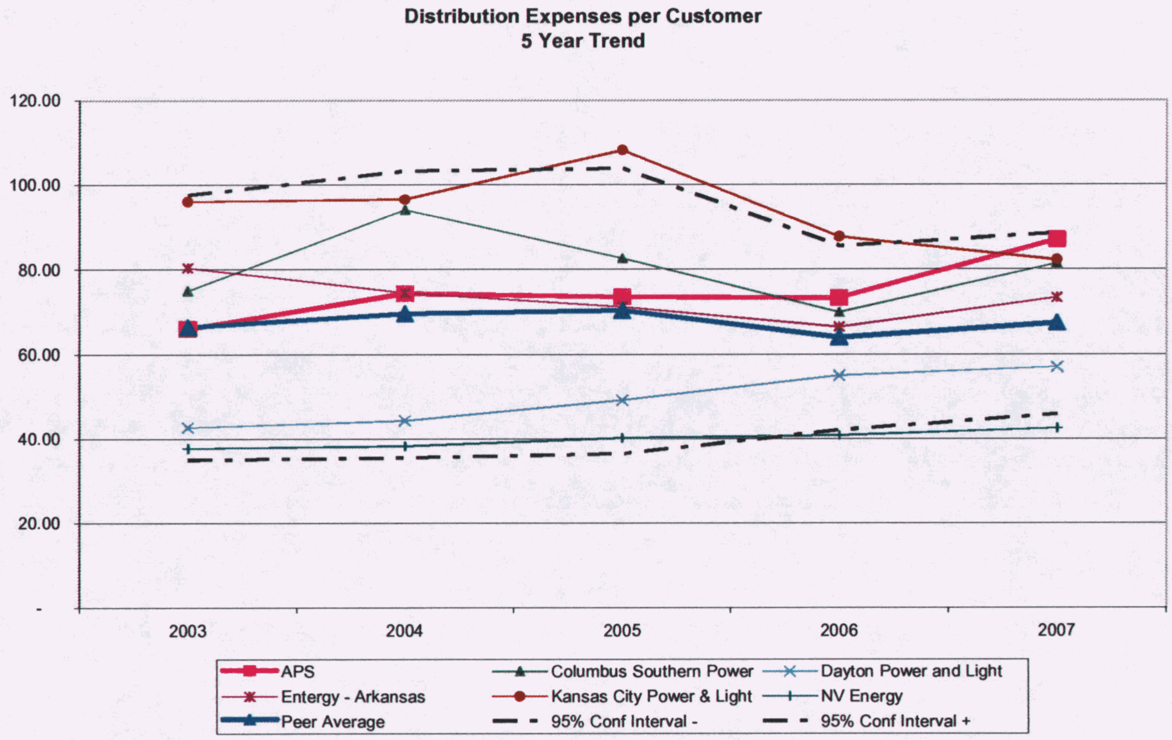
Overall, APS' Distribution Expenses per customer were not significantly different from the peer group.

The five-year trend analysis shows that Distribution Expenses have increased over the past five years for APS while the trend is relatively flat for peer companies. The increase in Distribution Expenses on a per customer basis is more noticeable for APS between year 2006 and 2007.

Five-year average results and a five-year trend comparison of Distribution Expenses of APS compared to the peer group have been included graphically as follows:



SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE



SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE

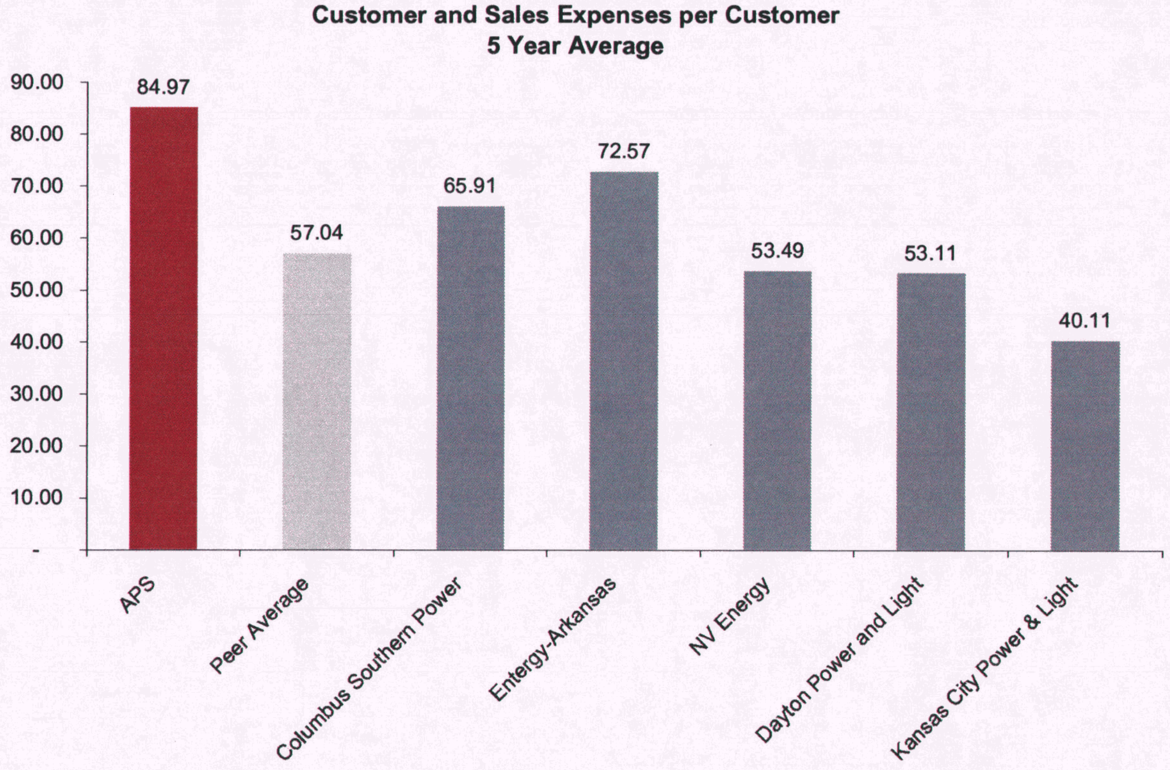
e) Customer Accounts, Customer Service and Information, and Sales Expenses

On a per customer basis, APS' expenses related to Customer Accounts, Customer Service and Information, and Sales Expenses of $84.97 per customer were highest in contrast to the peer average of $57.04.

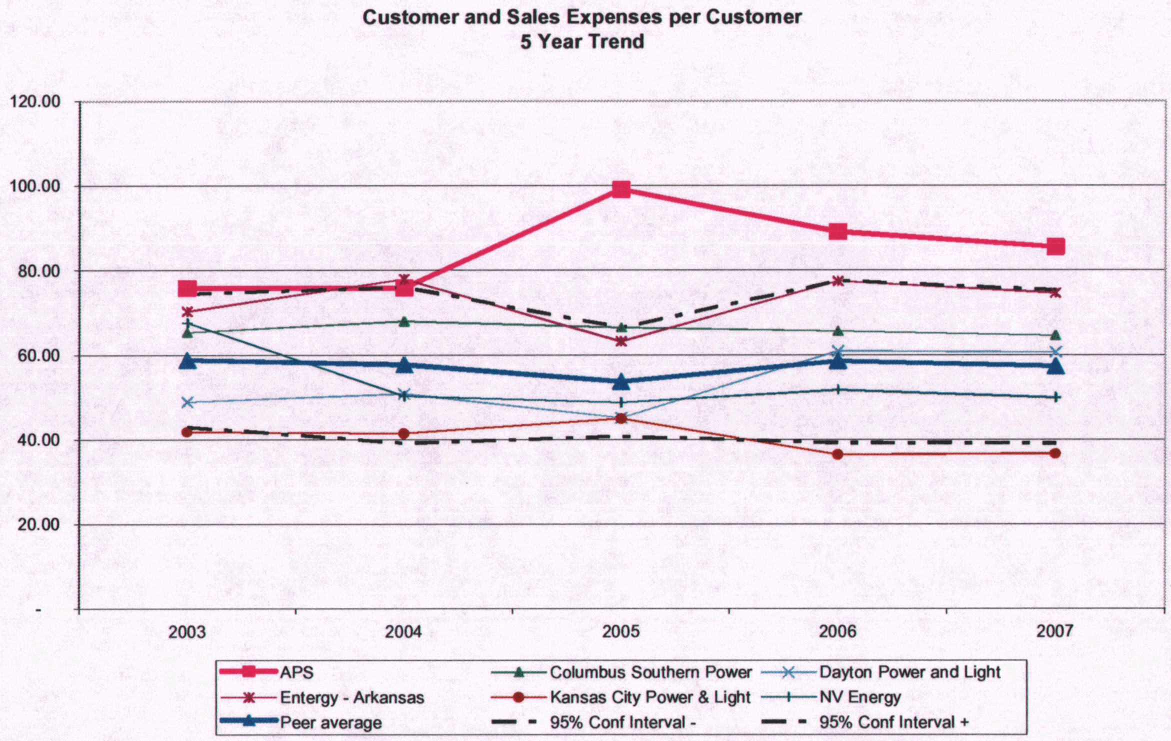
Overall, APS' Customer and Sales Expenses were substantially and significantly higher than the peer group for most years.

The five-year trend analysis shows that APS experienced a significant increase in Customer and Sales Expenses in 2005, while the trend was relatively flat for peer companies.

Five-year average results and a five-year trend comparison of Customer and Sales Expenses of APS compared to the peer group have been included graphically as follows:



SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE



SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE

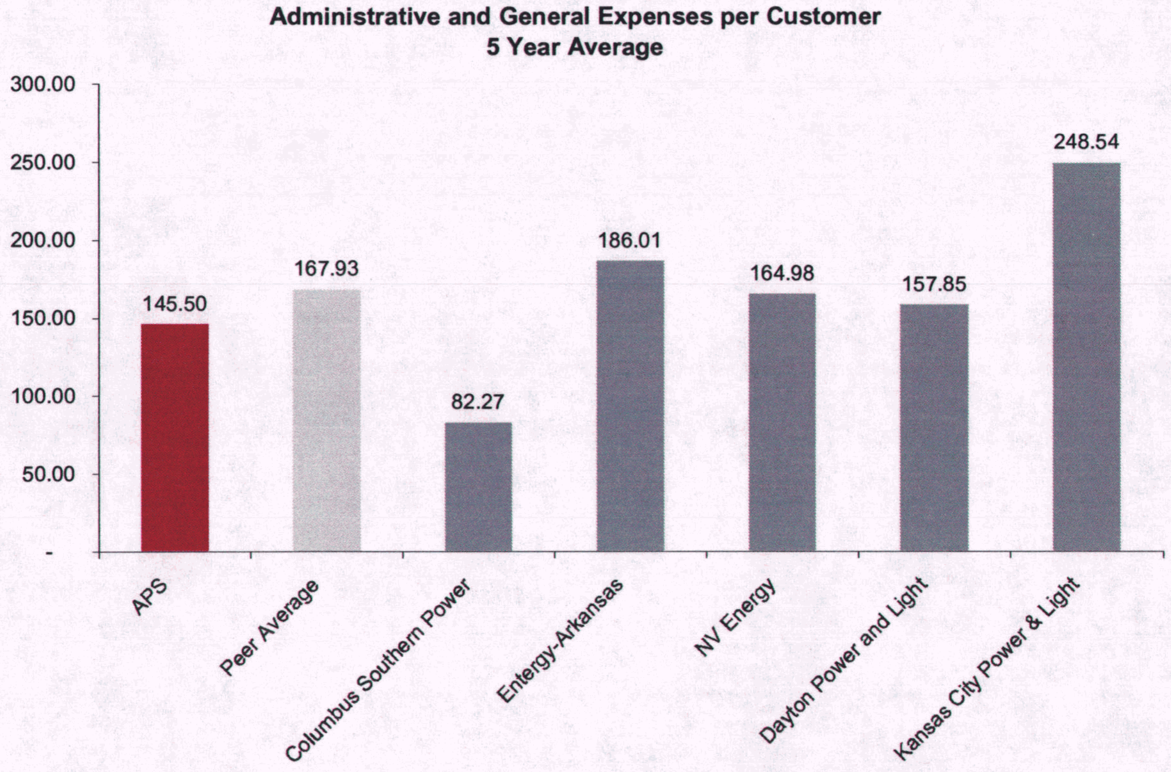
f) Administrative and General Expenses

On a per customer basis, APS' five-year average Administrative and General ("A&G") Expenses of $145.50 per customer were slightly lower than the peer average of $167.93; the differences were not statistically significant for any of the years.

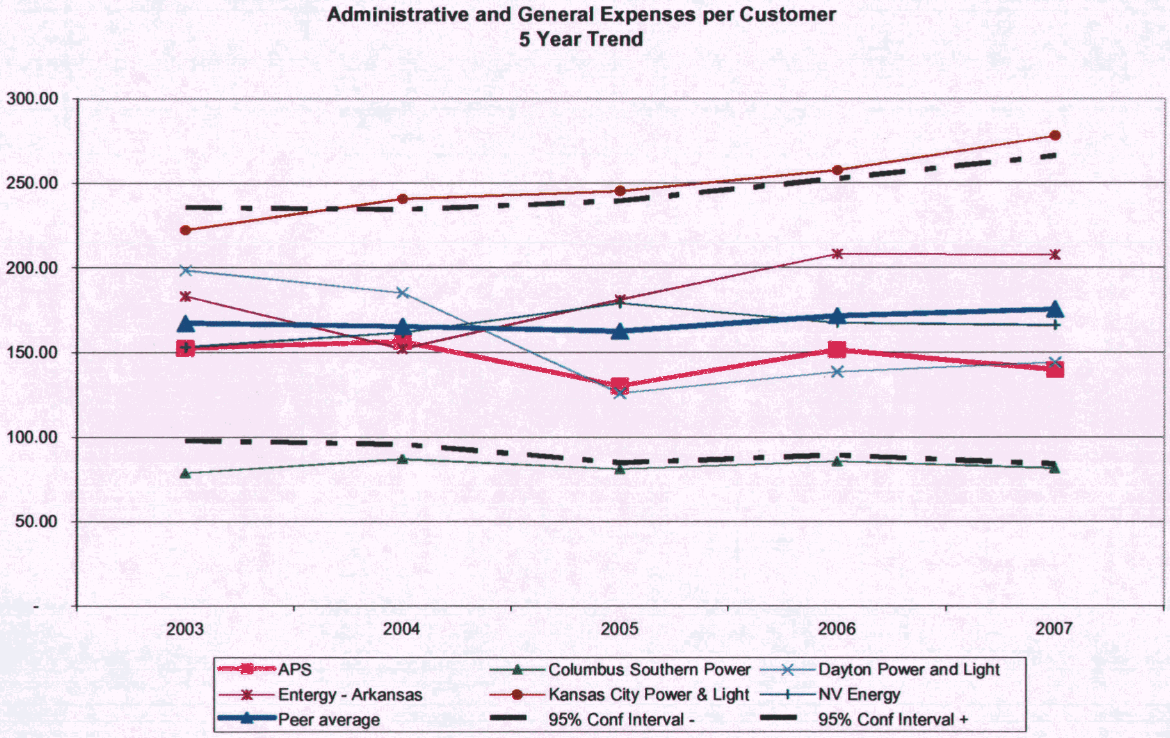
Overall, APS' A&G Expenses per customer were not significantly different from the peer group.

The five-year trend analysis shows that APS' A&G Expenses per customer have slightly declined over the years; the substantial decrease in 2005 was mostly offset by the increase in 2006. The peer group shows a slight increase of A&G Expenses per customer over the five-year period.

Five-year average results and a five-year trend comparison of A&G Expenses of APS compared to the peer group have been included graphically as follows:



SECTION 5
BENCHMARKING ANALYSIS—OPERATIONS AND MAINTENANCE



SECTION 5
BENCHMARKING ANALYSIS—EQUITY / DEBT RATIOS

4. Equity to Debt

Equity / Debt Ratio Approach

In order to represent Equity to Debt, Virchow Krause utilized historical balance sheet data to calculate the ratio of equity to total capitalization for APS and its benchmarked peers, utilizing the following formula:

= *Common Equity / Total Capitalization*[8]

Equity / Total Capitalization Results

Equity to Total Capitalization ratios were calculated as a five-year average for each peer entity. At 50% equity to capitalization, APS is comparable to the peer average (48 percent). As a whole, the peer group is balanced near APS' 50:50 debt to equity ratio. However, NV Energy is leveraged higher at approximately 65 percent and Dayton Power and Light is characterized by an average leverage of approximately 39 percent.

Overall, APS' Equity to Capitalization ratio was comparable to the peer group for most years.
APS' Equity to Total Capitalization ratio increased from 46 percent to 52 percent over the five years with a compound annual growth rate of 3.30%, a rate slightly lower than the peer average of 3.81%. Among the peer group, NV Energy and Kansas City Power & Light shows biggest changes in the capital structure.

Five-year average results and a five-year trend comparison of operations and maintenance expenses of APS compared to the peer group have been included graphically as follows:

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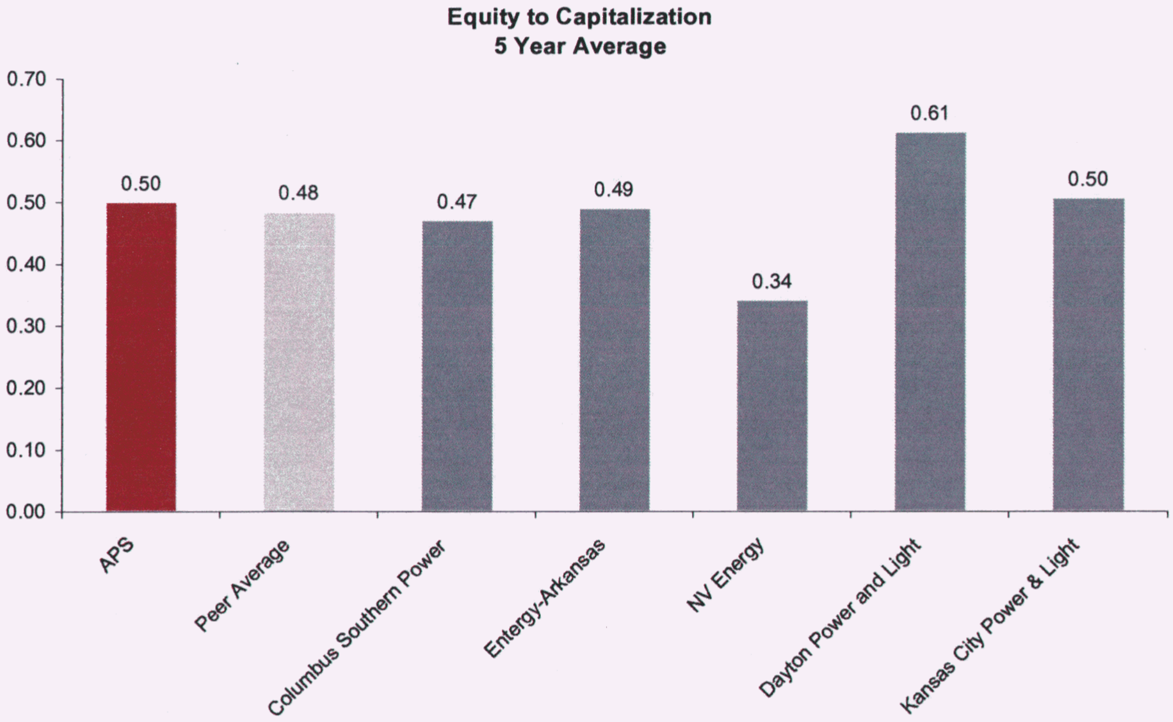
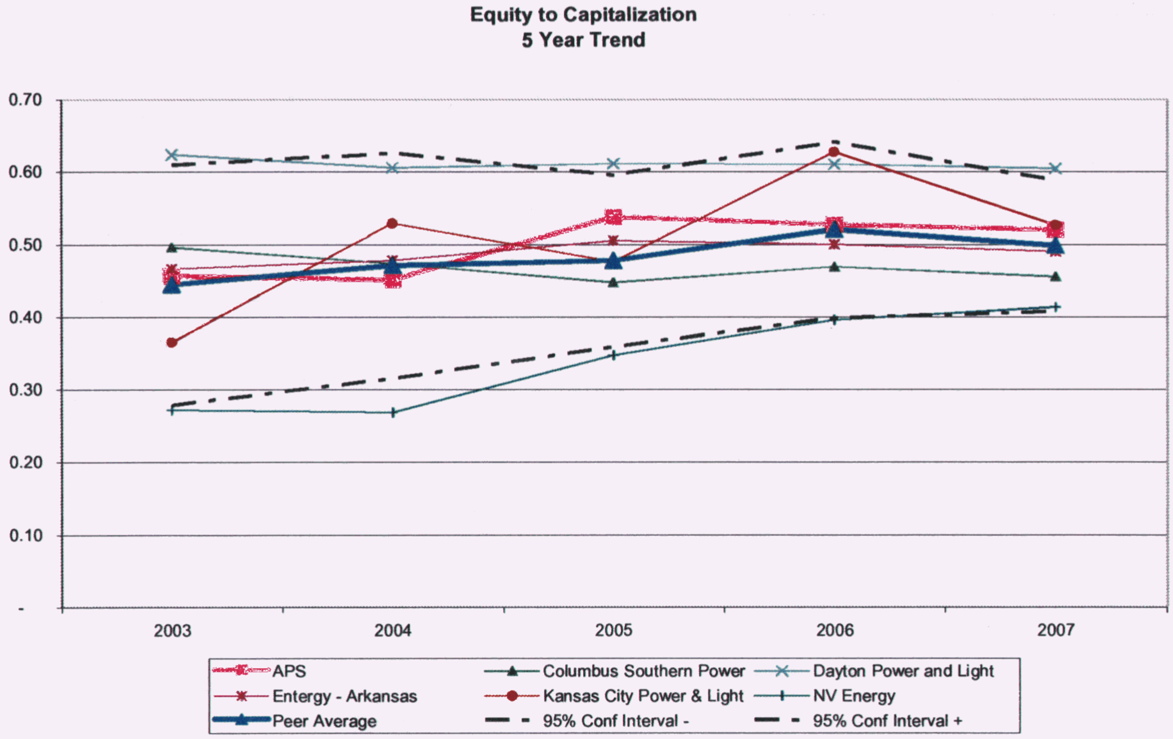
[8] *Total Capitalization* includes Common Equity and Total Debt, which includes: Long-Term Debt; Short-Term Debt and Current Portion of Long-Term Debt; as well as Capitalized Lease Obligations.

SECTION 5
BENCHMARKING ANALYSIS—EQUITY / DEBT RATIOS





SECTION 5
BENCHMARKING ANALYSIS—CUSTOMER GROWTH

5. Customer Growth

Customer Growth Approach

Virchow Krause utilized customer data reported through FERC Form 1 – Sales by Rate Schedule to determine annual growth rates of APS and the peer group.

Customer Growth Results

With an average annual customer growth rate of 3.79%, APS is characterized by much higher customer growth as compared to the peer average of 1.66%. The difference was both substantial and significant for most years. NV Energy, however, is characterized by the highest average growth rate at 4.00%.

Overall, APS' Customer Growth was substantially and significantly higher than the peer group for most years.

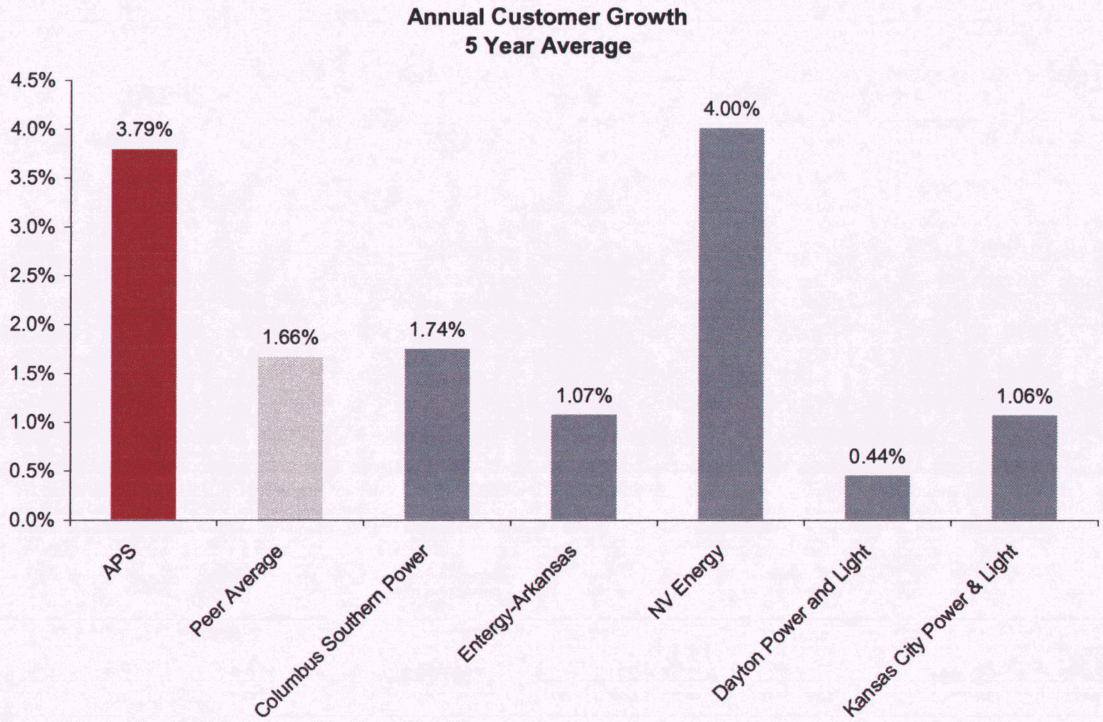
The trend analysis shows for both APS and the peer group, the customer growth rate peaked in 2006 with a slow-down in 2007.

Generally, higher customer growth may affect the following criteria reviewed in our analysis:

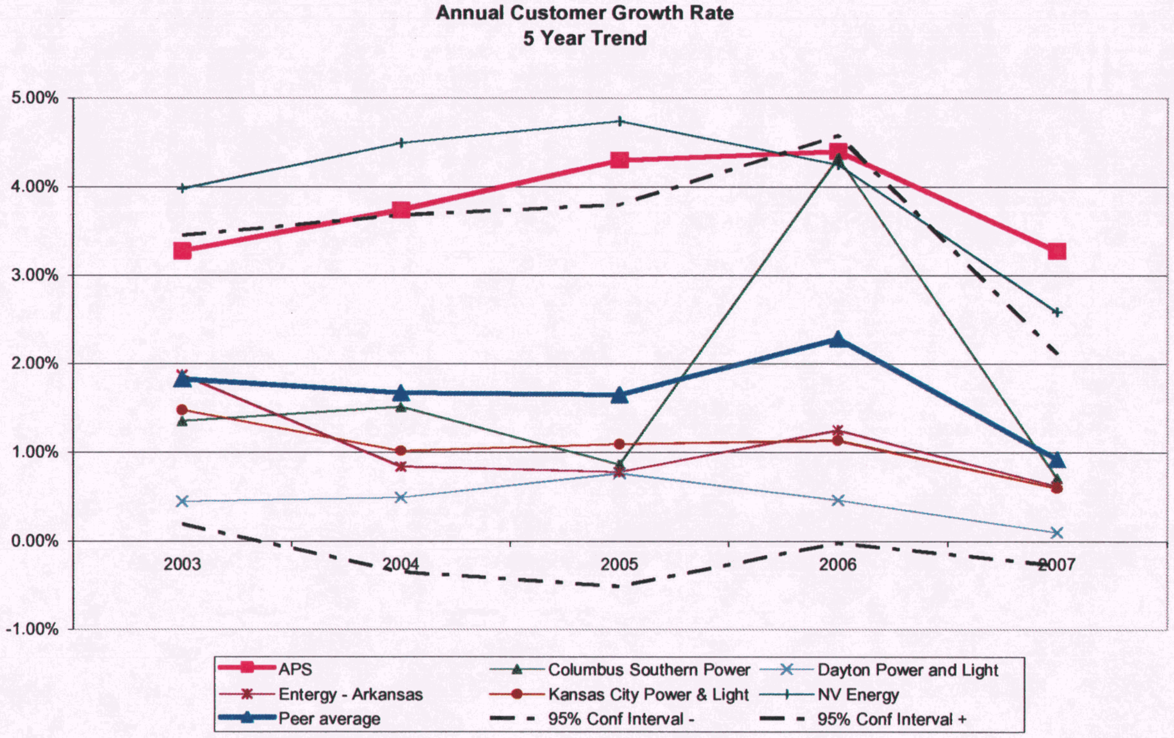
- Higher O&M expenses related to distribution and customer accounting to address growth (e.g., hiring and training of customer representatives and meter readers, etc.)
- Higher Capital expenditures to address the growth.
- Lower Dividend Payout Ratio and higher retained earnings to address growth.

Five-year average results and a five-year trend comparison of customer growth of APS compared to the peer group have been included graphically as follows:

SECTION 5
BENCHMARKING ANALYSIS—CUSTOMER GROWTH



Annual Customer Growth
5 Year Average



Annual Customer Growth Rate
5 Year Trend

SECTION 5
BENCHMARKING ANALYSIS—FUNDS FROM OPERATIONS / DEBT RATIOS

6. FFO to Debt Ratio

FFO / Debt Ratio Approach

FFO (or Funds From Operations) represents the sum of net income and all non-cash charges or credits. We utilized FFO from Thompson Financials as primary data source and calculate the ratio using the following formula:

= FFO / Total Debt

FFO / Debt Results

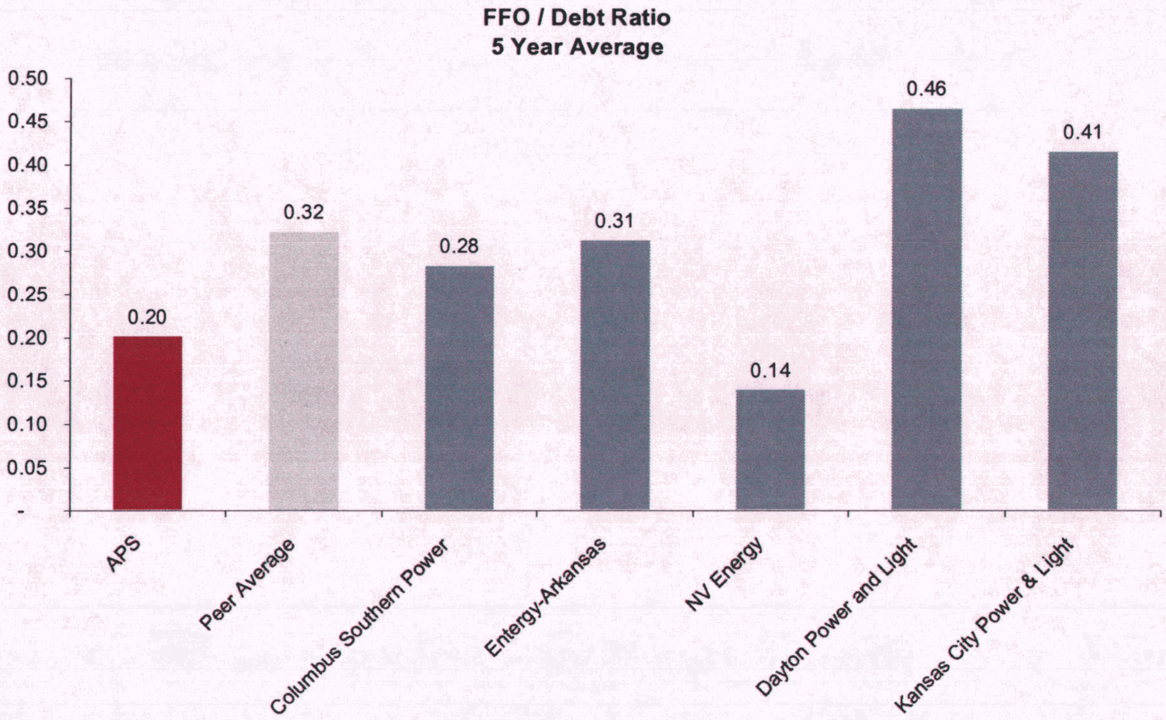
APS' average funds from operations to total debt ratio of 0.20 is substantially lower than the peer average of 0.32 and is lower than each of the peers except for NV Energy, at 0.14. The differences were substantial for all years. The differences were also significant for years 2004 and 2007, at 95% and 90% confidence interval, respectively. NV Energy's ratio is lower due to a lower FFO and that it has higher debt than the peer group. APS' ratio is mostly affected by the numerator (FFO) as its leverage is comparable to the peer group.

Overall, APS' FFO to Debt Ratio was not significantly different from the peer group except for years 2004 and 2007. However, the differences were substantial for all years.

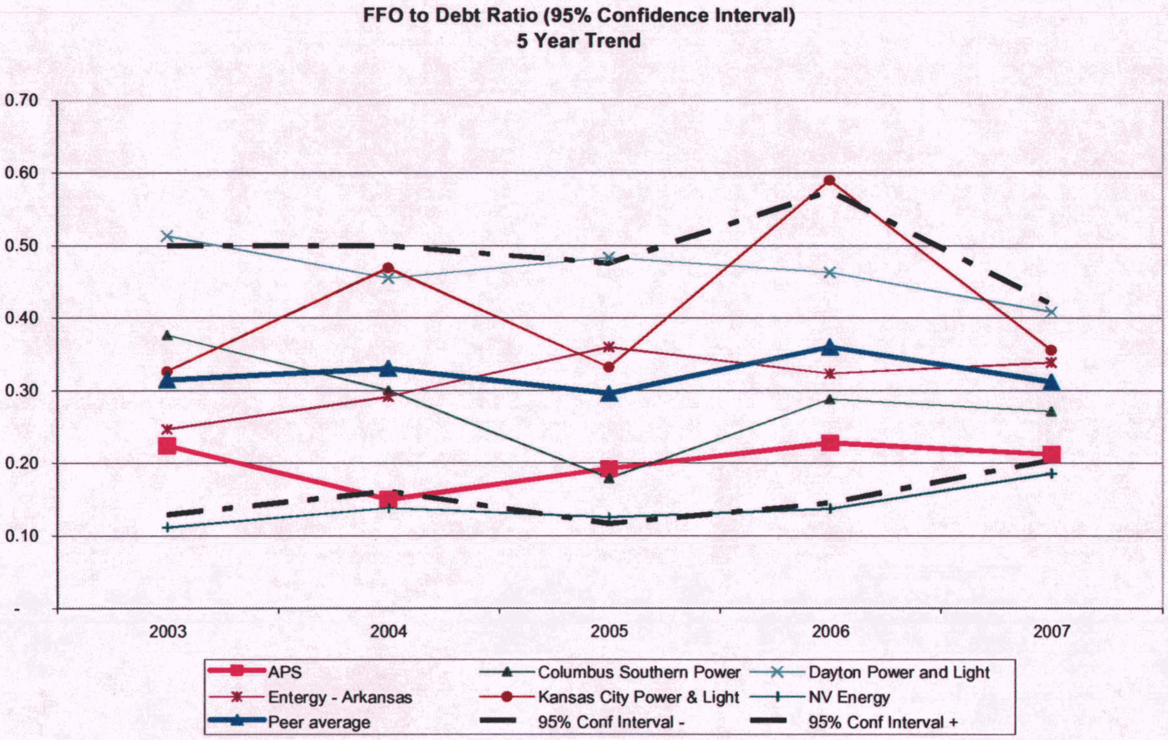
Despite the year to year change, the 2007 APS' FFO to Debt Ratio is comparable to the 2003 ratio. The amount of Funds from Operations (in dollar) has slightly increased at the compound growth rate of 2.89%, a rate substantially lower than the peer average of 5.27%.

Five-year average results and a five-year trend comparison of funds from operations to total debt of APS compared to the peer group have been included graphically as follows:

SECTION 5
BENCHMARKING ANALYSIS—FUNDS FROM OPERATIONS / DEBT RATIOS

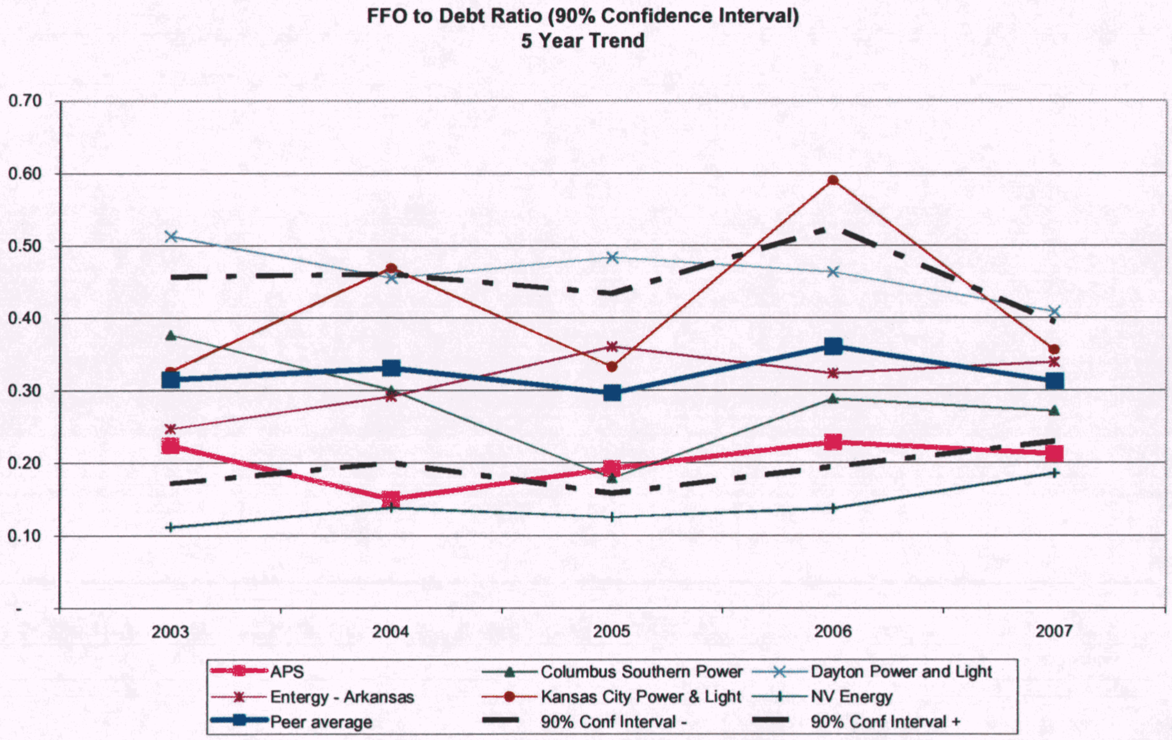


FFO / Debt Ratio
5 Year Average



FFO to Debt Ratio (95% Confidence Interval)
5 Year Trend

SECTION 5
BENCHMARKING ANALYSIS—FUNDS FROM OPERATIONS / DEBT RATIOS



SECTION 5
BENCHMARKING ANALYSIS—AUTHORIZED RATE OF RETURN

7. Authorized Rate of Return

Authorized Rate of Return Approach

Virchow Krause utilized SNL data to compile Authorized Rate of Return on Equity over the past five years.

Authorized Rate of Return Results

APS' five-year average authorized rate of return on equity is 10.75%; the differences were not significant for any of the years. If excluding Ohio utilities, APS' rate is comparable to the adjusted peer average of 10.61%.

Overall, on an adjusted basis for better comparability, APS' Authorized Rate of Return was comparable to the peer group.

The following table shows the Authorized Rate of Return on Equity for APS and the peer group effective during the 2003 to 2007 period.

Entity	**5 year Average**		**2007**	**2006**	**2005**	**2004**	**2003**
Arizona Public Service	10.75%		10.75%	10.25%	10.25%	11.25%	11.25%
Entergy-Arkansas	10.56%		9.90%	9.90%	11.00%	11.00%	11.00%
NV Energy	10.43%		10.70%	10.70%	10.25%	10.25%	10.25%
Kansas City Power and Light	11.00%		10.75%	11.25%	N/A	N/A	N/A
Dayton Power and Light*	13.00%*		13.00%*	13.00%*	13.00%*	13.00%*	13.00%*
Columbus Southern Power*	12.46%*		12.46%*	12.46%*	12.46%*	12.46%*	12.46%*
Peer Average	11.42%		11.28%	11.26%	11.39%	11.59%	11.59%
Peer Average *excluding* Ohio-based peers	10.61%		10.47%	10.63%	10.65%	10.65%	10.65%

The adjustment to the peer group is warranted due to the different regulatory landscape in Ohio. The Ohio-based peers (both Dayton Power Company and Colorado Southern Company) latest rate case was in 1992. The authorized rate of return on equity for each company was higher than that of peer companies. As a result of the enactment of electric industry restructuring legislation, effective Jan. 1, 2001, the Ohio utilities no longer use the electric fuel component that had provided for fuel rate adjustments outside of the base rates approved by the Commission. Through year-end 2005, the Ohio utilities operated under hard rate caps; therefore, the Ohio utilities were at risk for variations in fuel prices and purchased power costs. However, the utilities now operate under rate stabilization plans (RSPs) that allow for rate recognition of at least a portion of the increases in fuel prices, purchased power costs, and emissions expenditures.[9]

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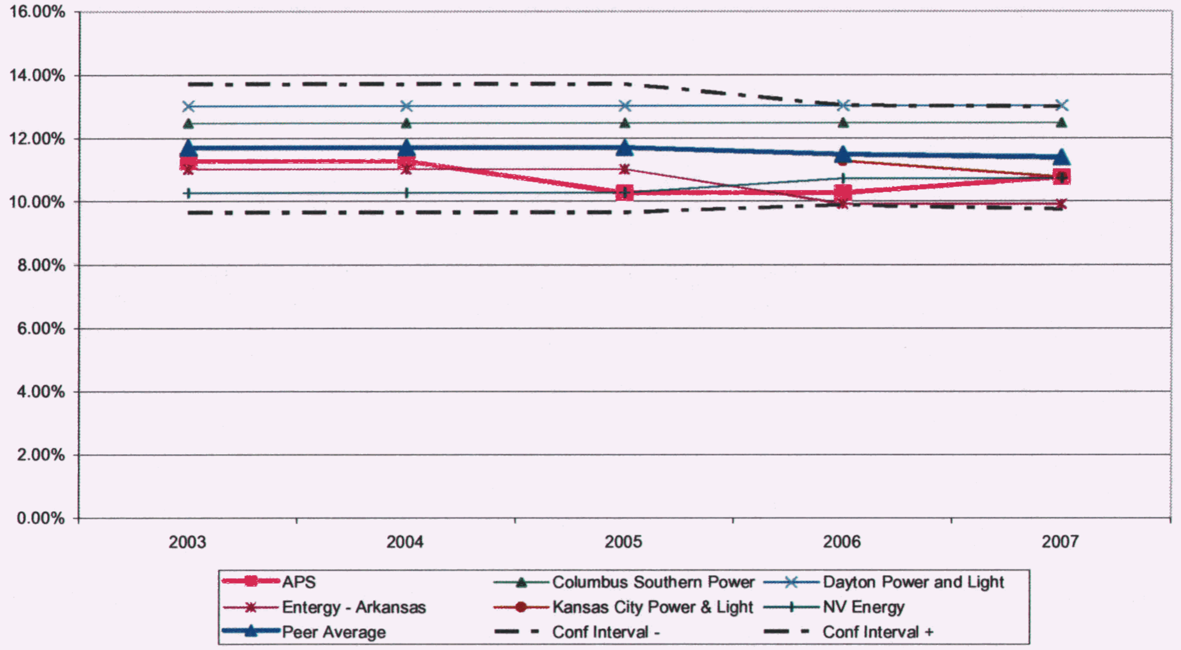
[9] Source: SNL

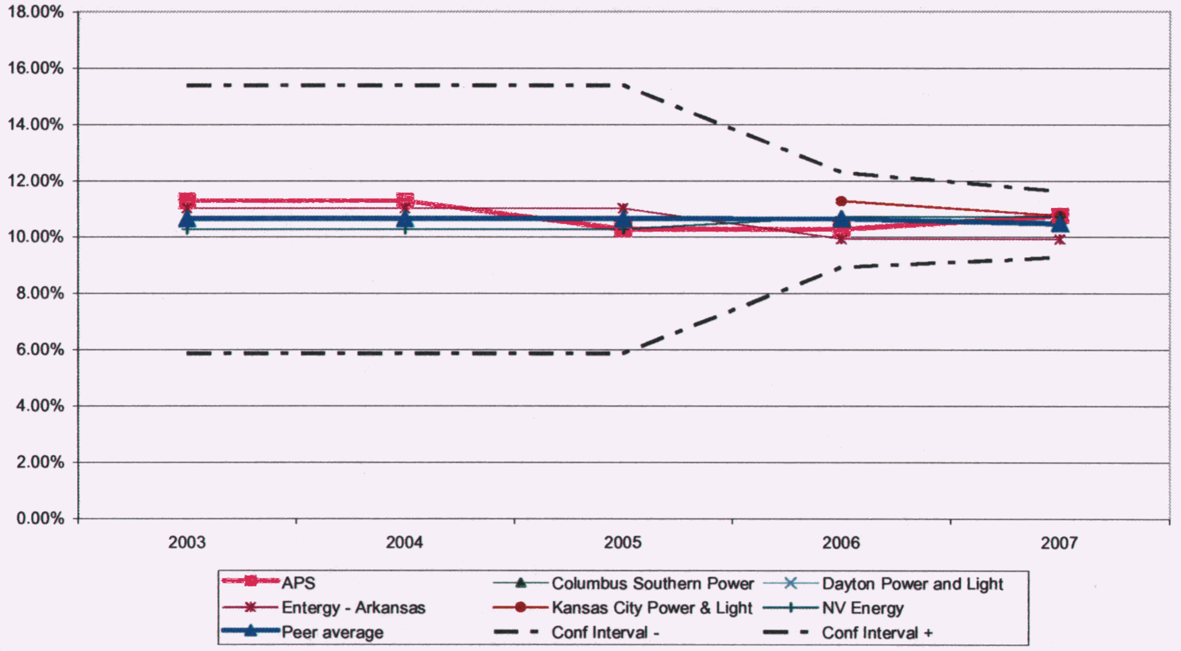
SECTION 5
BENCHMARKING ANALYSIS—AUTHORIZED RATE OF RETURN

Five-year trend comparisons of authorized rate of return of APS compared to the peer group have been included graphically as follows:

Authorized Rate of Return on Equity
5 Year Trend



Authorized Rate of Return (W/O Ohio Peers)
5 Year Trend



SECTION 5
BENCHMARKING ANALYSIS—REVENUE EARNED ON RATE BASE

8. Revenue Earned on Rate Base

Revenue Earned on Rate Base Approach

Revenue Earned on Rate Base was reviewed at the point in time in which the most recent rate case was filed, as the rate base is only meaningful for the year of ratemaking. Virchow Krause utilized the SNL data to compile the most recently authorized allowed rate base for this calculation. Revenues were compiled from FERC-Form 1.

Revenue Earned on Rate Base Results

APS' revenue earned on rate base of 70.47% was slightly higher than the peer average of 65.86% and slightly lower than the adjusted peer average (excluding Ohio utilities) of 74.95%.

Overall, APS' Revenue Earned on Rate Base was not significantly different from the peer group.

The following table shows Authorized Rate of Return effective during the 2003 – 2007 period.

	APS	Peer Average	Peer Average (less Ohio)	Columbus Southern Power*	Entergy-Arkansas	NV Energy	Dayton Power and Light*	Kansas City Power & Light
Authorized Rate Base ($MM)	4,403.50	N/A	N/A	1,548.50	3,693.20	4,363.20	2,050.00	1,270.00
Revenue ($MM)	3,103.00	N/A	N/A	844.00	2,092.68	3,420.80	1,024.07	1,140.40
Revenue Earned on Rate Base	**70.47%**	**65.86%**	**74.95%**	**54.50%***	**56.66%**	**78.40%**	**49.95%***	**89.80%**
Year (Recent Rate Case)	2007	N/A	N/A	1992	2006	2006	1992	2006

The adjustment to the peer group is warranted due to the different regulatory landscape in Ohio. The Ohio-based peers (both Dayton Power Company and Colorado Southern Company) latest rate case was in 1992. The authorized rate of return on equity for each company was higher than that of peer companies. As a result of the enactment of electric industry restructuring legislation, effective Jan. 1, 2001, the Ohio utilities no longer use the electric fuel component that had provided for fuel rate adjustments outside of the base rates approved by the Commission. Through year-end 2005, the Ohio utilities operated under hard rate caps; therefore, the Ohio utilities were at risk for variations in fuel prices and purchased power costs. However, the utilities now operate under rate stabilization plans (RSPs) that allow for rate recognition of at least a portion of the increases in fuel prices, purchased power costs, and emissions expenditures.[10]

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[10] Source: SNL

SECTION 5
BENCHMARKING ANALYSIS—CAPITAL INVESTMENT COSTS

9. Capital Investment Costs

Capital Investment Costs

Virchow Krause obtained Capital Investment Cost data from summarized cash flow statements data for the peer group. This data was normalized on a per customer basis for better comparability.

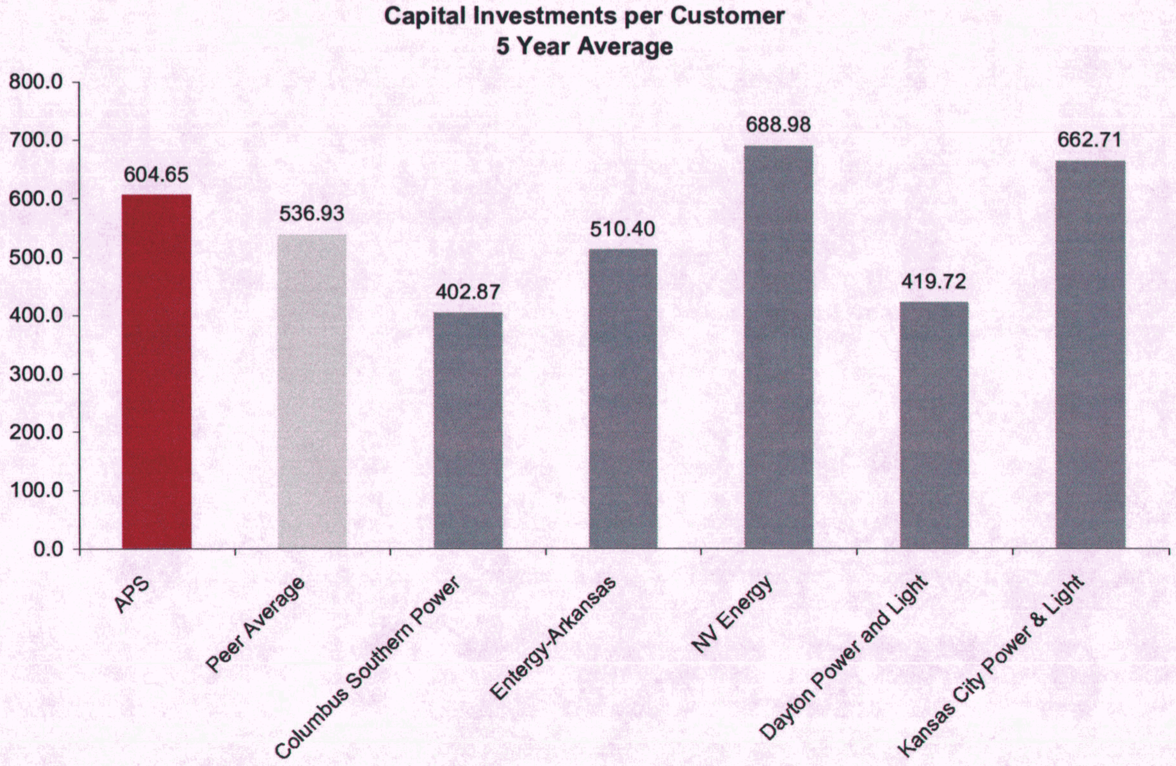
Capital Investment Costs Results

APS' average capital expenditures per customer of $604.65 were slightly higher than the peer average of $536.93; the differences were not significant for any of the years.

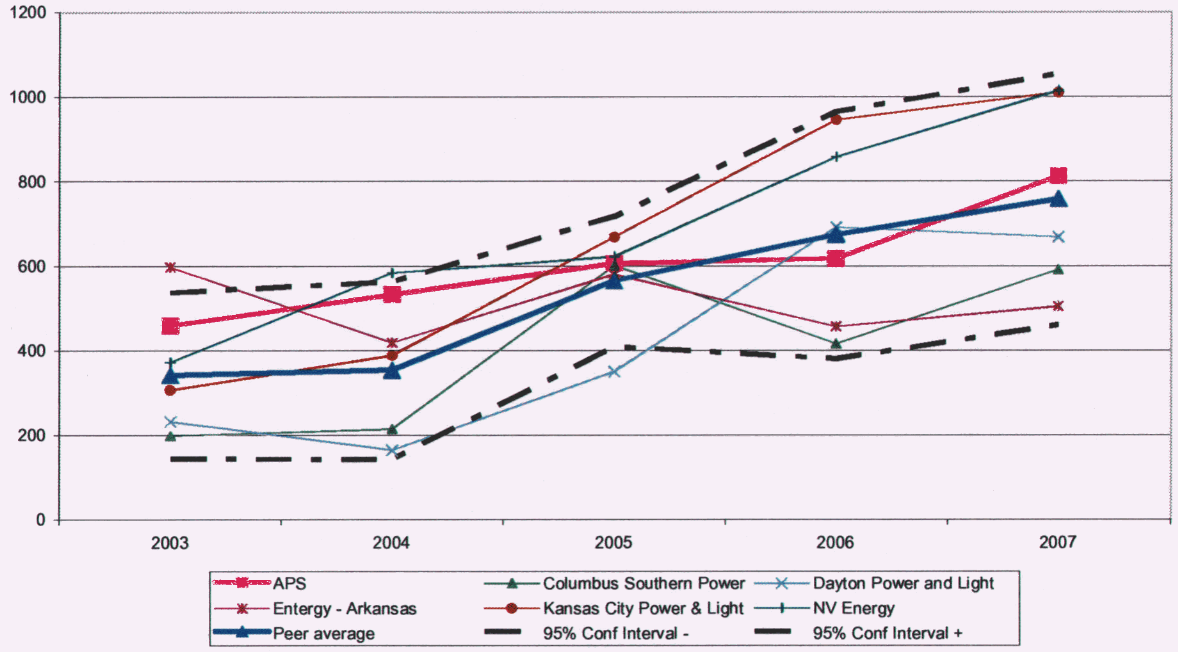
Overall, APS' Capital Investment Costs were not significantly different from the peer group.

Over the five-year period of 2003-2007, APS' capital expenditures per customer increased at 15.42%, a rate substantially lower than the peer average of 24.28%. However, the growth rates were comparable in years 2005 – 2007.

Five-year average results and a five-year trend comparison of capital expenditures per customer of APS compared to the peer group have been included graphically below.



SECTION 5
BENCHMARKING ANALYSIS—CAPITAL INVESTMENT COSTS



Capital Investment Costs per Customer
5 Year Trend

SECTION 6
CONCLUSIONS

The following metrics show statistically significant differences between APS and the peer group for most years, including:

- Customer and Sales Expenses per Customer: APS' customer and sales expenses were significantly higher than the peer group.
- Average Annual Customer Growth: APS' customer growth was significantly higher than the peer group.

Virchow Krause cautions readers of this report about the interpretation of significant tests noted here. In normal English, "significant" means important, while in Statistics "significant" means probably true (reliable / not due to chance). A smaller sample size will provide a larger margin of error and may provide too wide an interval to be of any practical use. In very large samples, even very small differences between variables could be detected as significant, whereas in very small samples even very large differences may not be considered significant (or reliable). The small sample size used for this analysis makes it difficult for us to make statistical inferences. Had we had a bigger sample size (more utilities and/or more years), our results would likely have been different.

In the following section, we will describe APS' performance in relation to peers as follows:

- "Substantially higher/lower": To describe a difference more than 25% from the peer average.
- "Slightly higher/lower": To describe a difference less than 25% from the peer average.
- "Comparable": To describe a difference less than 5% from the peer average.
- "Significant": To describe a statistically significant difference.

Significance testing was performed for each year to determine if APS' performance was different from the peer group for that year. For our overall conclusions, we highlighted the areas where APS' performance was significantly different from the peer group for most of the five years that we reviewed.

1. Management Expenses

a) Management Expenses

Overall, APS' Management Expenses were not significantly different from the peer group for most years. In 2006 and 2007, however, APS' management expenses were substantially and significantly higher than the peer group.

APS' five-year average Management Expenses to sales ratio of 0.33% was substantially higher than the peer average of 0.26%, and second only to DPL, Inc. In 2006 and 2007, APS' management expense ratios were significantly and substantially higher than the peer group.

The trend analysis indicates that APS' management expense to sales ratio increased substantially in 2006 compared to its peer group.

b) Management Expenses (Less Change in Pension Value and Deferred Charges)

Management Expenses reported on the proxy statements include a non-current expense item, the Change in Pension Value and Nonqualified Deferred Compensation Earnings. Since this item is not expensed during the current period, we performed an analysis excluding this item.

SECTION 6
CONCLUSIONS

On an adjusted basis, APS' five-year average Management Expenses (adjusted to exclude Change in Pension Value and Nonqualified Deferred Compensation Earnings) to sales ratio of 0.25% was comparable to the peer group. Overall, APS' management expenses (adjusted to exclude change in pension value and deferred charges) were not significantly different from the peer group for all years except 2006. In 2006, APS' management expenses were substantially and significantly higher than the peer group.

c) Other considerations

APS stated that a certain portion of its executive compensation is billed to the third party entities through a Participating Agreement. Other companies in our peer group may also have similar arrangements. We did not take this into consideration for our analysis since there is no publicly available data for the entire peer group. Had this allocation been included in our calculation, APS' management expense ratio would have been lower than those presented above.

2. Dividends

Overall, APS' Dividend Payout Ratio was not significantly different from the peer group for all years except 2005. In 2005, APS' Dividend Payout Ratio was substantially and significantly higher than the peer group.

APS' five-year average Dividend Payout Ratio of 80.35 was substantially higher than the peer average of 61.5, and second only to Kansas City Power and Light; the differences were not statistically significant for most years. It is noted that NV Energy's Dividend Payout Ratio was significantly lower than the peer average. Alternatively, if excluding NV Energy for better comparability, APS' five-year average Dividend Payout Ratio was slightly higher than the adjusted peer group average (75.23); the difference, however, is not statistically significant for most years.

The trend analysis shows that APS' Dividend Payout Ratio decreased over five years while the peer group's ratio slightly increased.

3. Operations and Maintenance Expenses

a) Total Operations and Maintenance Expenses

Overall, APS' Total O&M Expenses per customer were not significantly different from the peer group for most years.

On a per customer basis, APS' five-year average Total Operations and Maintenance ("O&M") Costs of $607.45 per customer were slightly higher than the peer average of $555.92; the differences were not significant for any of the years. Alternatively, APS' costs were slightly lower compared to the average costs of sub peer group with nuclear generation ($668.91). The differences, however, were not statistically significant for any of the years except 2003.

The trend analysis shows that APS' costs increased at a rate comparable with the peer average, on a per customer basis.

Overall, APS' Total O&M Expenses per MWh were not significantly different from the peer group for most years.

On a per MWh production basis, APS' five-year average Total O&M Costs of $25.21/MWh were slightly higher than the peer group average of $21.69. The differences were not significant for all years except 2005. It appears that the 2005 peer data was skewed by NV Energy which experienced a substantial change in resource portfolio during that period. Alternatively, APS' costs were substantially higher compared to the average costs of sub-peer group with nuclear generation ($18.17). Neither difference, however, was statistically significant for the most part.

The trend analysis shows that APS' Total O&M costs were relatively flat over the past five years on a per MWh production basis.

b) Power Production O&M Expenses

Overall, APS' Power Production O&M Expenses per customer were not significantly different from the peer group.

On a per customer basis, APS' five-year average Power Production O&M Expenses of $266.75 per customer were substantially higher than the peer average of $212.23; the differences, however, were not statistically significant for any of the years. Alternatively, APS' costs were comparable to the average costs of sub-peer group with nuclear generation ($274.71).

Overall, on an adjusted basis for better comparability, APS' Power Production O&M Expenses per MWh were not significantly different from the peer group.

On a per MWh produced basis, APS' Power Production O&M Expenses of $11.04/MWh were substantially higher than the peer average of $8.08/MWh. The differences were statistically significant for 2005 and 2006. Again, it appears that the 2005 and 2006 peer data were skewed by NV Energy who experienced a substantial change in resource portfolio during that period. In addition, the result is somewhat expected as the peer group included utilities without nuclear generation. A comparison with the adjusted peer group is warranted since nuclear generation involves higher production O&M costs than other fuel sources. Alternatively, compared with the sub-peer group with nuclear generation for better comparability, APS' costs were still substantially higher than the average costs of the sub-peer group ($7.51/MWh); the differences, however, were not statistically significant for any of the years.

Power Production O&M expenses have increased over the past five years for both APS and peer group.

c) Transmission Expenses

Overall, APS' Transmission Expenses per customer were not significantly different from the peer group.

On a per customer basis, APS' five-year average Transmission Expenses of $35.56 per customer were substantially lower than the peer average of $50.77; the differences were not statistically significant for any of the years. If excluding the Ohio utilities, the peer average of $34.88 is comparable to APS' costs.

Transmission Expenses have increased over the past five years for both APS and the peer group.

SECTION 6
CONCLUSIONS

d) Distribution Expenses

Overall, APS' Distribution Expenses per customer were not significantly different from the peer group.

On a per customer basis, APS' five-year average Distribution Expenses of $74.67 per customer were slightly higher than the peer average of $67.34; the differences were not statistically significant for any of the years.

The five-year trend analysis shows that Distribution Expenses have increased over the past five years for APS while the trend is relatively flat for peer companies. The increase in Distribution Expenses on a per customer basis is more noticeable and substantial for APS between year 2006 and 2007.

e) Customer Accounts, Customer Service and Information, and Sales Expenses

Overall, APS' Customer and Sales Expenses were substantially and significantly higher than the peer group for most years.

On a per customer basis, APS' expenses related to Customer Accounts, Customer Service and Information, and Sales Expenses of $84.97 per customer were highest in contrast to the peer average of $57.04.

In addition, APS experienced an increase in Customer and Sales Expenses in 2005, while the trend was relatively flat for peer companies.

f) Administrative and General Expenses

Overall, APS' A&G Expenses per customer were not significantly different from the peer group.

On a per customer basis, APS' five-year average Administrative and General ("A&G") Expenses of $145.50 per customer were slightly lower than the peer average of $167.93; the differences were not statistically significant for any of the years.

APS' A&G Expenses per customer have slightly declined over the years; the substantial decrease in 2005 was mostly offset by the increase in 2006. The peer group shows a slight increase of A&G Expenses per customer over the five-year period.

4. Equity to Debt

Overall, APS' Equity to Capitalization ratio was comparable to the peer group for most years.

At 50% equity to capitalization, APS is comparable to the peer average (48 percent).

APS' Equity to Total Capitalization ratio increased from 46 percent to 52 percent over the five years with a compound annual growth rate of 3.30%, a rate slightly lower than the peer average of 3.81%.

5. Customer Growth

Overall, APS' Customer Growth was substantially and significantly higher than the peer group for most years.

SECTION 6
CONCLUSIONS

With an average annual customer growth rate of 3.79%, APS is characterized by much higher customer growth as compared to the peer average of 1.66%. The differences were both substantial and significant for most years. NV Energy, however, has the highest average growth rate at 4.00%.

For both APS and the peer group, the customer growth rate peaked in 2006 with a slow-down in 2007.

6. FFO to Debt Ratio

Overall, APS' FFO to Debt Ratio was not significantly different from the peer group except for years 2004 and 2007. However, the differences were substantial for all years.

APS' five-year average Funds From Operations ("FFO") to total debt ratio of 0.20 is substantially lower than the peer average of 0.32; the differences were substantial for all years and significant for years 2004 and 2007[11].

Despite the year to year change, the 2007 APS' FFO to Debt Ratio is comparable to the 2003 level. The amount of Funds from Operations (in dollar) has slightly increased at the compound growth rate of 2.89%, a rate substantially lower than the peer average of 5.27%.

7. Authorized Rate of Return

Overall, on an adjusted basis for better comparability, APS' Authorized Rate of Return was comparable to the peer group.

APS' five-year average authorized rate of return on equity is 10.75%. The rate is slightly lower than the peer average of 11.42%; the differences were not significant for any of the years. If excluding Ohio utilities, APS' rate is comparable to the adjusted peer average of 10.61%.

8. Revenue Earned on Rate Base

Overall, APS' Revenue Earned on Rate Base was not significantly different from the peer group.

APS' Revenue Earned on Rate Base of 70.47% was slightly higher than the peer average of 65.86% and slightly lower than the adjusted peer average (excluding Ohio utilities) of 74.95%.

9. Capital Investment Costs

Overall, APS' Capital Investment Costs were not significantly different from the peer group.

APS' five-year average capital expenditures per customer of $604.65 were slightly higher than the peer average of $536.93; the differences were not significant for any of the years.

Over the five-year period of 2003-2007, APS' Capital Investment Costs per customer increased at 15.42%, a rate substantially lower than the peer average of 24.28%. However, the growth rates were comparable in years 2005 to 2007.

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[11] At 90% confidence interval for 2007.

SECTION 6
CONCLUSIONS

The following table summarizes the benchmark analysis. Significance testing was performed for each year to determine if APS' performance was different from the peer group for that year. For our overall conclusions, we highlighted the areas where APS' performance was significantly different from the peer group for most of the five years that we reviewed.

		APS 5-Yr Average	Peer 5-Yr Average	Comparison with Peers (In bold, if significant for most years)	Basis for Adjustment if Any
1.a	Management Expenses to Sales	0.33%	0.26%	Substantially higher than peers; significant for 2006 and 2007	
1.b	Management Expenses to Sales (w/o change in pension value)	0.25%	0.25%	Comparable to peers	
2.	Dividend Payout Ratio	80.35	61.50 75.23 (adj.)	Substantially higher than peers Slightly higher than peers	 Excluding NV Energy
3.a	Total Operations and Maintenance Expense per Customer	$607.45	$555.92 $668.91 (adj.)	Slightly higher than peers Slightly lower than peers (adj.)	 Only including peers with nuclear generation
3.b	Total Operations and Maintenance Expense per MWh Production	$25.21	$21.69 $18.17 (adj.)	Slightly higher than peers Substantially higher than peers (adj.)	 Only including peers with nuclear generation
3.1.a	Production O&M Costs per Customer	$266.75	$212.23 $274.71(adj.)	Substantially higher than peers Comparable to peers (adj.)	 Only including peers with nuclear generation
3.1.b	Production O&M Costs per MWh Production	$11.04	$8.08 $7.51 (adj.)	Substantially higher than peers Substantially higher than peers (adj.)	 Only including peers with nuclear generation

SECTION 6
CONCLUSIONS

		APS 5-Yr Average	Peer 5-Yr Average	Comparison with Peers (In bold, if significant for most years)	Basis for Adjustment if Any
3.2.	Transmission Expense per Customer	$35.56	$50.77 $34.88 (adj.)	Substantially lower than peers Comparable to peers (adj.)	Excluding Ohio-based peers
3.3.	Distribution Expense per Customer	$74.67	$67.34	Slightly higher than peers	
3.4.	**Customer and Sales Expenses per Customer**	**$84.97**	**$57.04**	**Significantly & substantially higher than peers**	
3.5.	Administrative and General Expenses per Customer	$145.50	$167.93	Slightly lower than peers	
4.	Equity to Capitalization	0.50	0.48	Comparable to peers	
5.	**Annual Customer Growth Rate**	**3.79%**	**1.66%**	**Significantly & substantially higher than peers**	
6.	FFO to Debt Ratio	0.20	0.32	Substantially lower than peers; significant for 2004 and 2007	
7.	Authorized Rate of Return	10.75%	11.49% 10.66% (adj.)	Slightly lower than peers Comparable to peers (adj.)	Excluding Ohio-based peers (1991 rate case, no fuel cost recovery until 2005, etc.)
8.	Revenue Earned on Rate Base	70.47%	65.86% 74.95% (adj.)	Slightly higher than peers Slightly lower than peers (adj.)	Excluding Ohio-based peers (1991 rate case, no fuel cost recovery until 2005, etc.)
9.	Capital Investment Costs per Customer	$604.65	$536.93	Slightly higher than peers	

SECTION 6
CONCLUSIONS

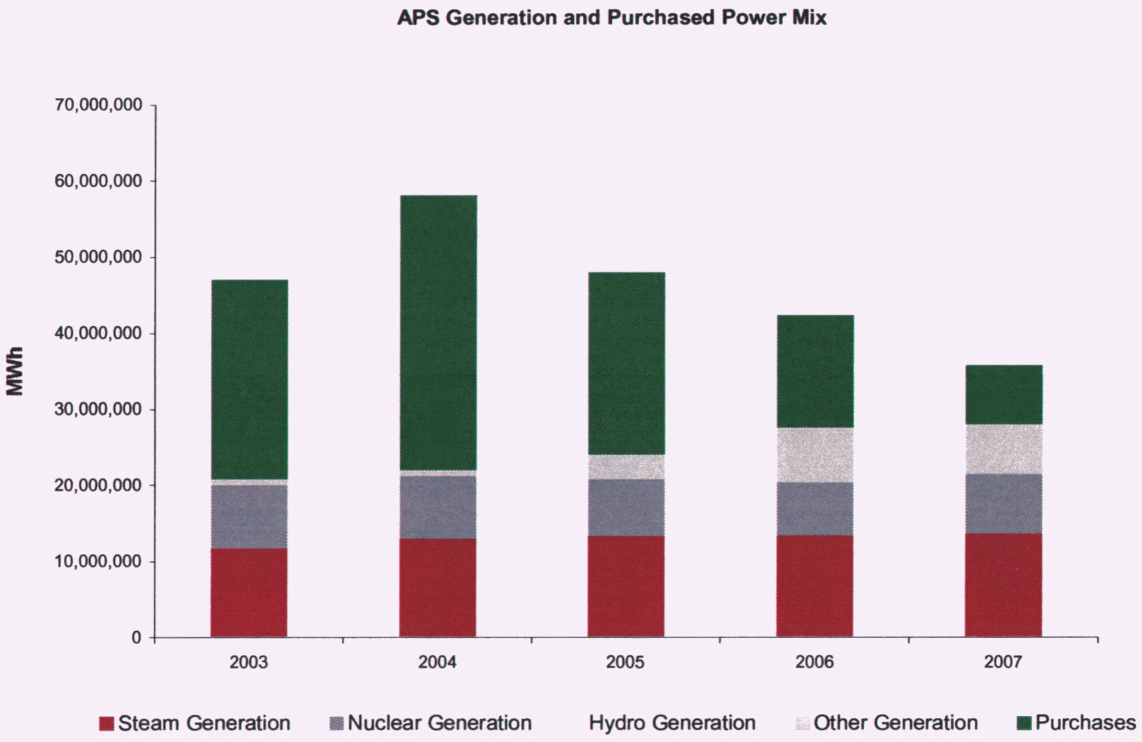
Recommendations

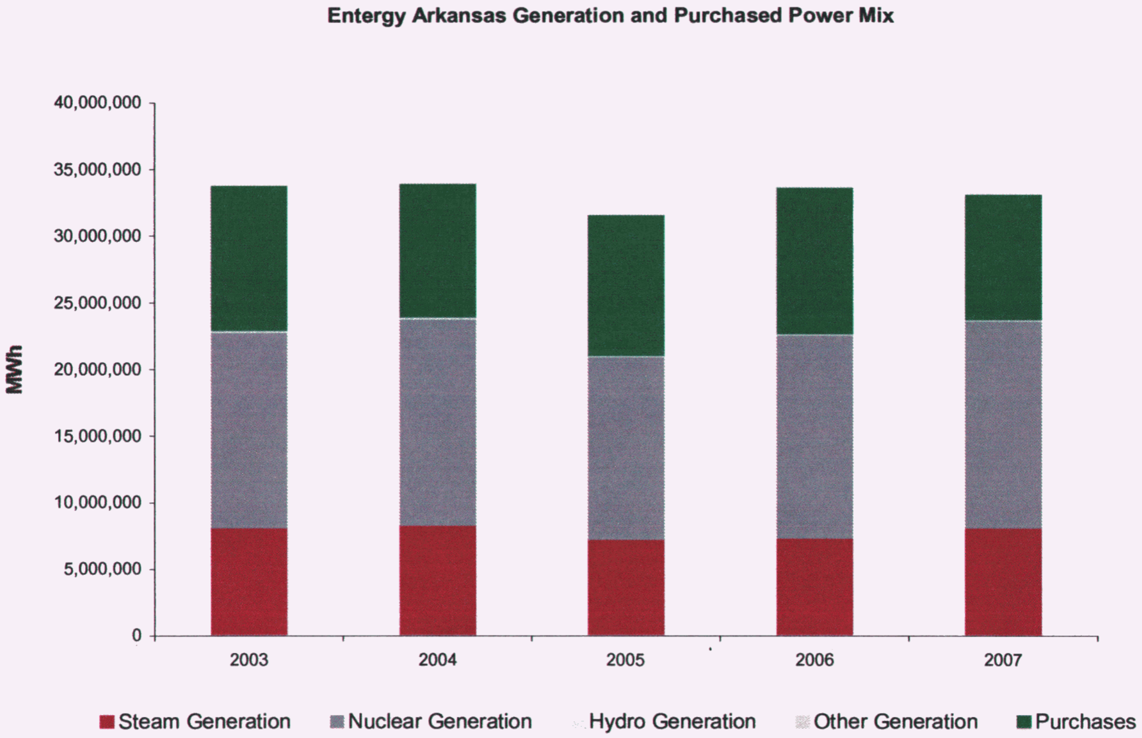
Virchow Krause views that the following areas of substantial and significant differences need to be further reviewed to identify root causes and steps to address lagging performance:

- Customer and Sales Expenses - substantial for all years; significant for most years
- FFO to Debt Ratio - substantial for all years; significant for 2004 and 2007

APPENDIX

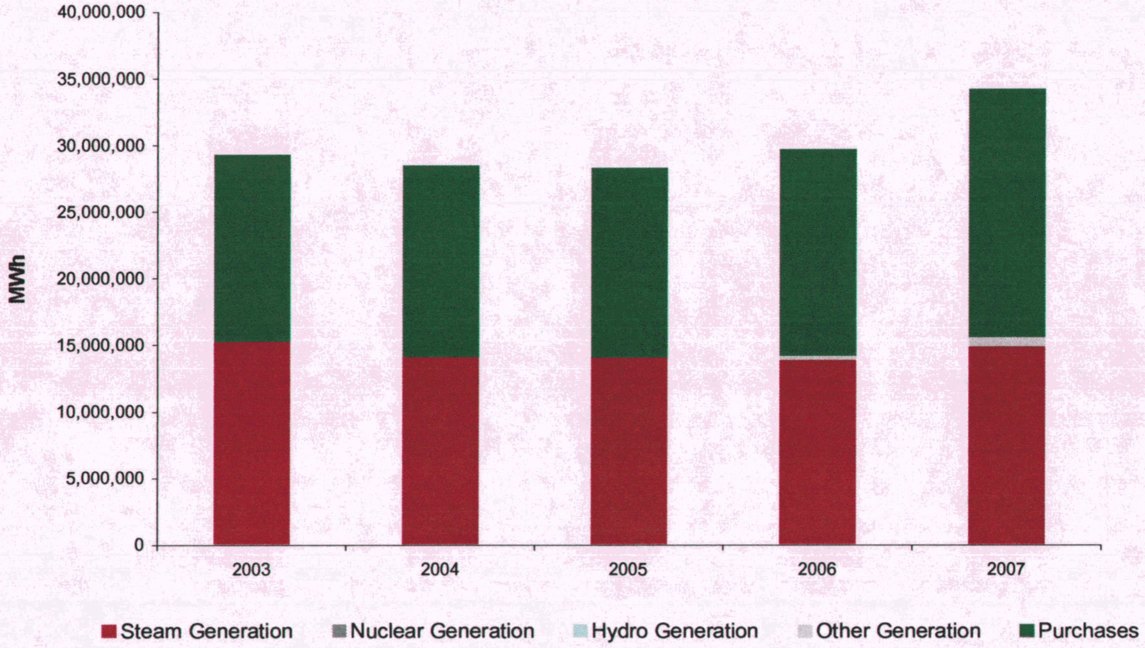
APPENDIX: RESOURCE PORTFOLIO



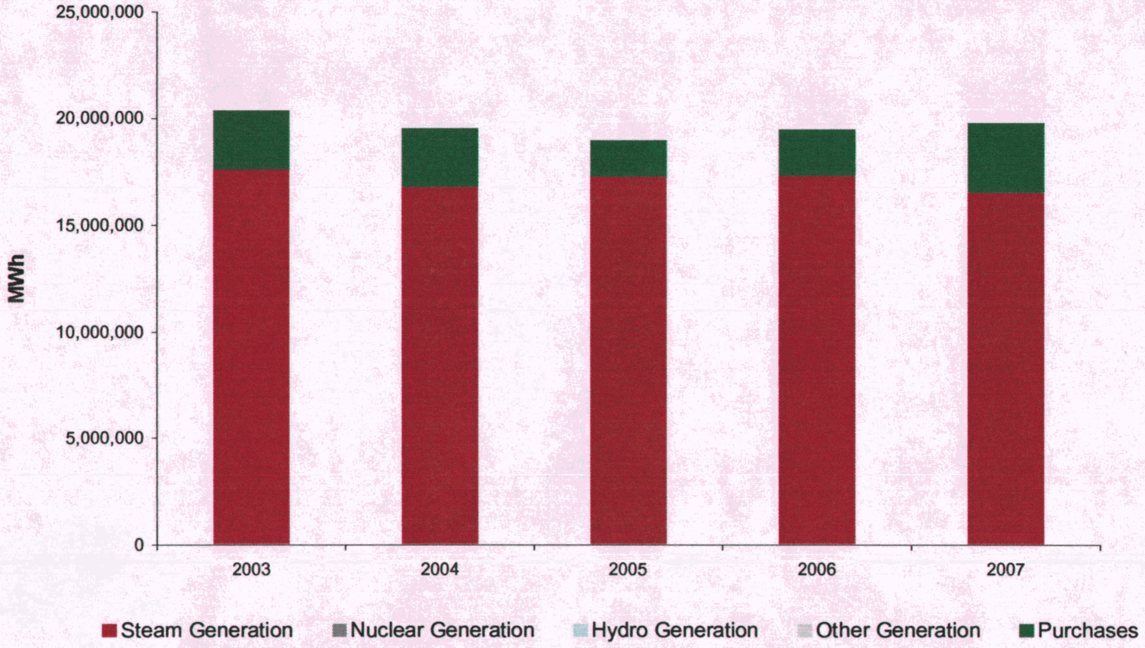


APPENDIX: RESOURCE PORTFOLIO

Columbus Southern Power Generation and Purchased Power Mix



Dayton Power and Light Generation and Purchased Power Mix



APPENDIX: RESOURCE PORTFOLIO